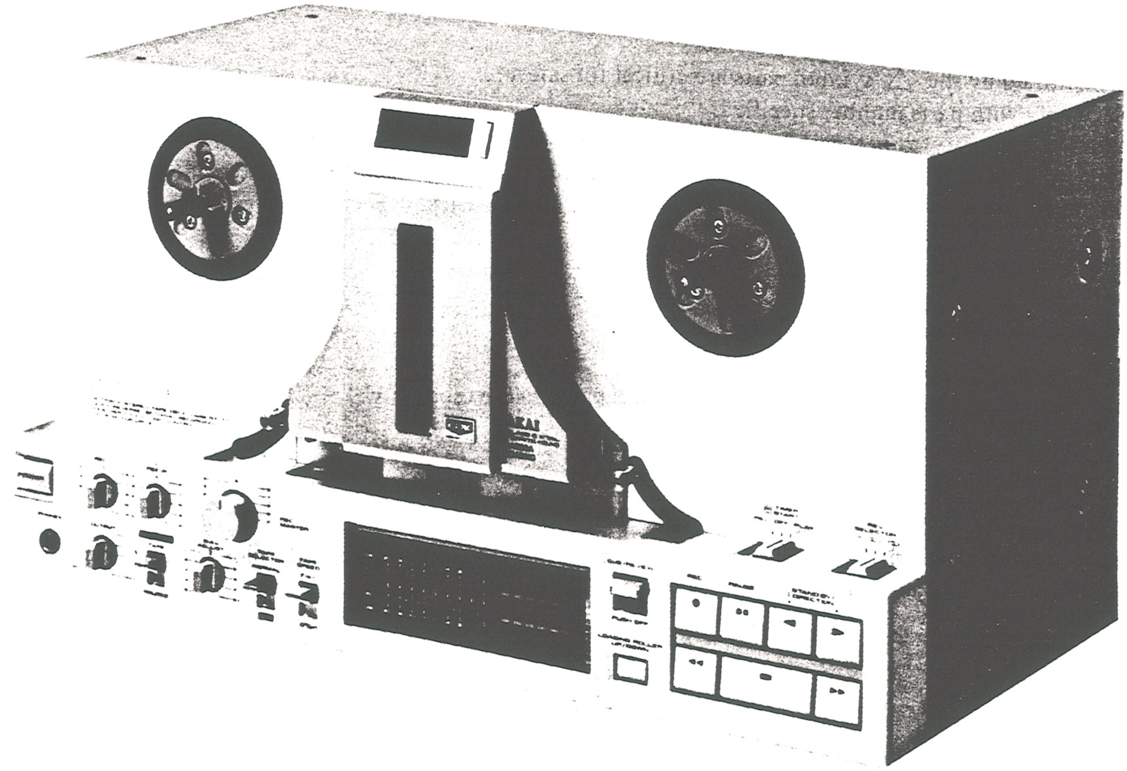


STEREO TAPE DECK

MODEL GX-77

THIS MANUAL IS ALSO APPLICABLE TO BOTH SILVER
AND BLACK PANEL MODELS

SECTION 1 SERVICE MANUAL 3
SECTION 2 PARTS LIST 45
SECTION 3 SCHEMATIC DIAGRAM 65

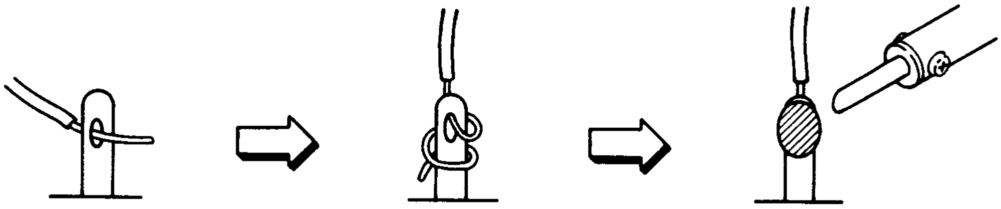
SAFETY INSTRUCTIONS

SAFETY CHECK AFTER SERVICING

Confirm the specified insulation resistance between power cord plug prongs and externally exposed parts of the set is greater than 10 Mohms, but for equipment with external antenna terminals (tuner, receiver, etc.) and is intended for $\boxed{C}$ or $\boxed{A}$, specified insulation resistance should be more than 2.2 Mohms (ground terminals, microphone jacks, headphone jacks. line-in-out jacks etc.)

PRECAUTIONS DURING SERVICING

1. Parts identified by the ⚠ symbol parts are critical for safety.
   Replace only with parts number specified.
2. In addition to safety, other parts and assemblies are specified for conformance with such regulations as those applying to spurious radiation. These must also be replaced only with specified replacements.
   Examples: RF converters, tuner units, antenna selector switches. RF cables, noise blocking capacitors, noise blocking filters, etc.
3. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads
4. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers (Insulating Barriers)
   4) Insulation sheets for transistors
5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.), wrap ends of wires securely about the terminals before soldering.



6. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.).
7. Check that replaced wires do not contact sharp edged or pointed parts.
8. Also check areas surrounding repaired locations.
9. Use care that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

SECTION 1

SERVICE MANUAL

TABLE OF CONTENTS

I. SPECIFICATIONS 4
II. DISMANTLING OF UNIT 5
III. CONTROLS 6
IV. PRINCIPAL PARTS LOCATION 8
V. VOLTAGE AND CYCLE CONVERSION 9
  1. VOLTAGE CONVERSION 9
  2. CYCLE CONVERSION 9
VI. OPERATING PRINCIPLES 10
  1. TIMING CHART OF EACH MODE 12
  2. EXPLANATION OF EACH MODE 18
  3. EXPLANATION OF EACH CIRCUIT 21
VII. MECHANISM ADJUSTMENT 26
  1. BRAKE BAND POSITION ADJUSTMENT AND BRAKE TENSION ADJUSTMENT 26
  2. PLAY PLUNGER POSITION ADJUSTMENT 27
  3. PINCH ROLLER PRESSURE ADJUSTMENT 27
  4. TENSION SERVO ADJUSTMENT 28
  5. LOADER PLUNGER POSITION ADJUSTMENT 29
  6. TAPE SPEED ADJUSTMENT 29
VIII. HEAD ADJUSTMENT 30
IX. AMPLIFIER ADJUSTMENT 32
X. DC RESISTANCE OF VARIOUS COILS 35
XI. CLASSIFICATION OF VARIOUS P.C BOARDS 35
  1. P.C BOARD TITLES AND IDENTIFICATION NUMBERS 35
  2. COMPOSITION OF VARIOUS P.C BOARDS 36

For basic adjustments, measuring methods, and operating principles, refer to GENERAL TECHNICAL MANUAL.

I. SPECIFICATIONS

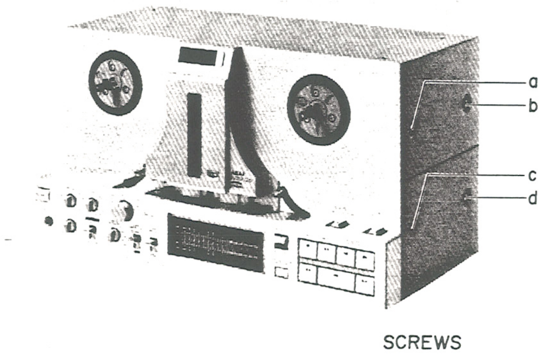
TRACK SYSTEM	4 Track 2 Channel Stereo System
REEL CAPACITY	Up to 7" reel
HEADS	GX head for Recording x 2 GX head for Playback x 2 Erase head x 2
MOTORS	FG Servo DC motor for capstan drive x 1 DC motor for reel drive x 2
TAPE SPEED	19 cm/s ± 0.8% (7-1/2 ips.) 9.5 cm/s ± 1.0% (3-3/4 ips.)
WOW & FLUTTER	Less than 0.03% WRMS, 0.07% DIN 45500 at 19 cm/s Less than 0.04% WRMS, 0.10% DIN 45500 at 9.5 cm/s
TAPE WINDING TIME	80 sec. using 360 m (1200 ft.) tape
FREQUENCY RESPONSE (Using a EE Tape)	25 to 33,000 Hz ± 3 dB (−20 VU) at 19 cm/s 25 to 26,000 Hz ± 3 dB (0 VU) at 19 cm/s 25 to 25,000 Hz ± 3 dB (−20 VU) at 9.5 cm/s 25 to 15,000 Hz ± 3 dB (0 VU) at 9.5 cm/s
SIGNAL TO NOISE RATIO	Better than 63 dB at 19 cm/s DIN 45500
HARMONIC DISTORTION	Less than 0.5% at 19 cm/s
INPUT	Required microphone impedance: 600 ohms Line: 70 mV (input impedance 47 kohms)
OUTPUT	Line: 0.775V at 0 VU Required load impedance: more than 20 kohms Phone: 1.3 mV/8 ohms at 0 VU
DIN	Input: 2.0 mV (input impedance 10 kohms) Output: 0.3V Required load impedance: more than 20 kohms
DIMENSIONS	440(W) x 244(H) x 227(D) mm (17.3 x 9.6 x 8.9")
WEIGHT	17.0 kg (37.5 lbs)
POWER REQUIREMENTS	100V, 50/60 Hz for Japan 120V, 60 Hz for USA and Canada 220V, 50 Hz for Europe except UK 240V, 50 Hz for UK and Australia 110/120/220/240V, 50/60 Hz switchable for the other countries
POWER CONSUMPTION	JPN 30W U/T, CSA, AAL 50W

*** For improvement purposes, specifications and design are subject to change without notice.**

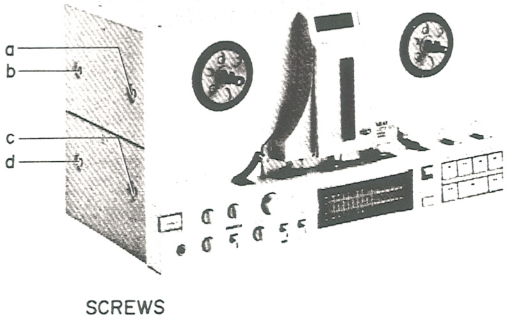
II. DISMANTLING OF UNIT

In case of trouble, etc. necessitating dismantling, please dismantle in the order shown in the photographs. Reassemble in reverse order.

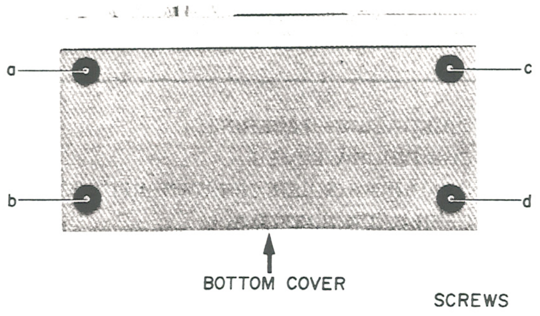
1


a
b
c
d
SCREWS

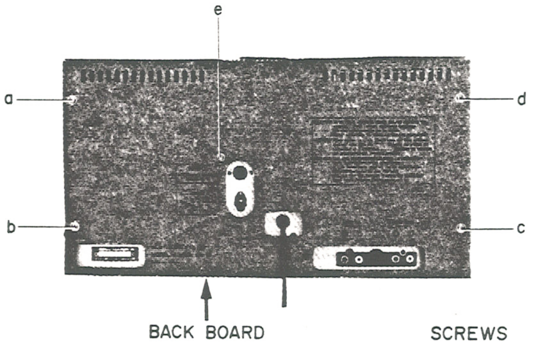
2


a
b
c
d
SCREWS

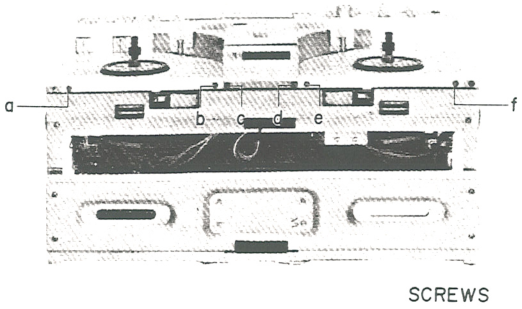
3


a
c
b
d
BOTTOM COVER
SCREWS

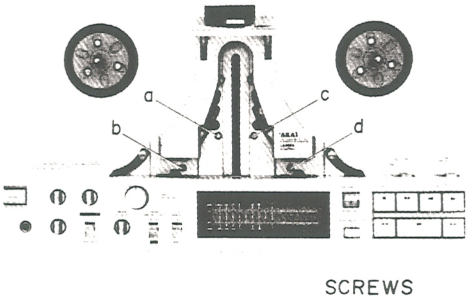
4


e
a
d
b
c
BACK BOARD
SCREWS

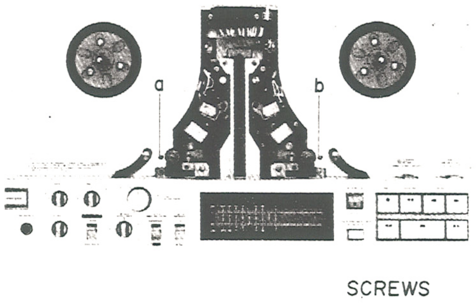
5


a
b
c
d
e
f
SCREWS

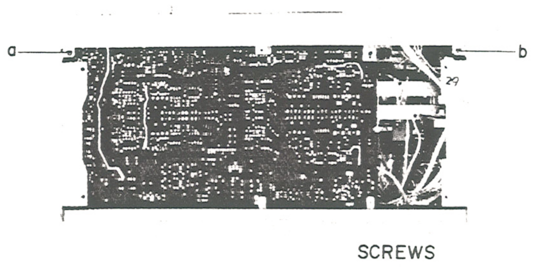
6


a
c
b
d
SCREWS

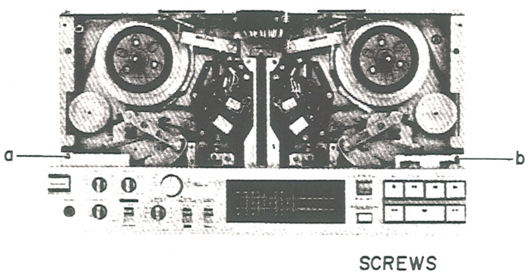
7



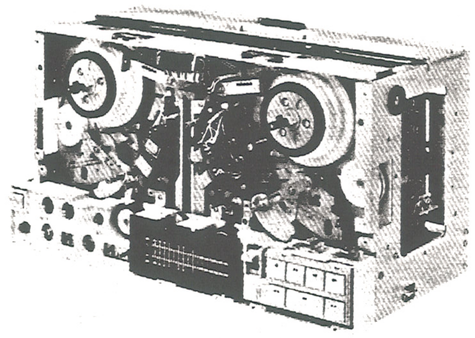
8



9



10



III. CONTROLS

1. POWER SWITCH
2. SUPPLY REEL TABLE
3. REEL STOPPER
4. TENSION ARM
5. CAPSTAN
6. HEAD COVER
7. REAL TIME COUNTER and RESET BUTTON
8. PINCH ROLLER
9. TENSION ARM
10. REEL STOPPER
11. TAKE UP REEL TABLE
12. TIMER START SELECTOR
13. REVERSE (REV) SELECTOR
14. HEADPHONE (PHONES) JACK
15. OUTPUT CONTROL
16. RECORDING INPUT CONTROLS (REC-L, REC-R)
17. MONITOR SELECTOR
18. BIAS ADJUSTMENT (ADJUST) CONTROL
19. RECORDING (REC) MASTER CONTROL
20. TAPE SELECTOR
21. TAPE SPEED SELECTOR
22. DIGITAL BAR METERS
23. CUE/REVIEW LEVER
24. LOADING ROLLER UP/DOWN BUTTON
25. OPERATION BUTTONS
    RECORDING BUTTON (● REC) and INDICATOR
    PAUSE BUTTON (▮▮) and INDICATOR
    REVERSE BUTTON (◄)
    FORWARD BUTTON (►)
    REWIND BUTTON (◄◄)
    STOP BUTTON (■)
    FAST FORWARD BUTTON (►►)
    STANDBY/DIRECTION INDICATORS (◄ and ►)
26. REMOTE CONTROL JACK
27. EXTERNAL POWER SUPPLY JACK
    (INPUT DC 15V 200 mA)
28. POWER CORD
29. LINE IN JACKS
30. LINE OUT JACKS
31. LOADING ROLLER
32. SENSING PINS
33. DIN JACK (Some models do not have this facility)

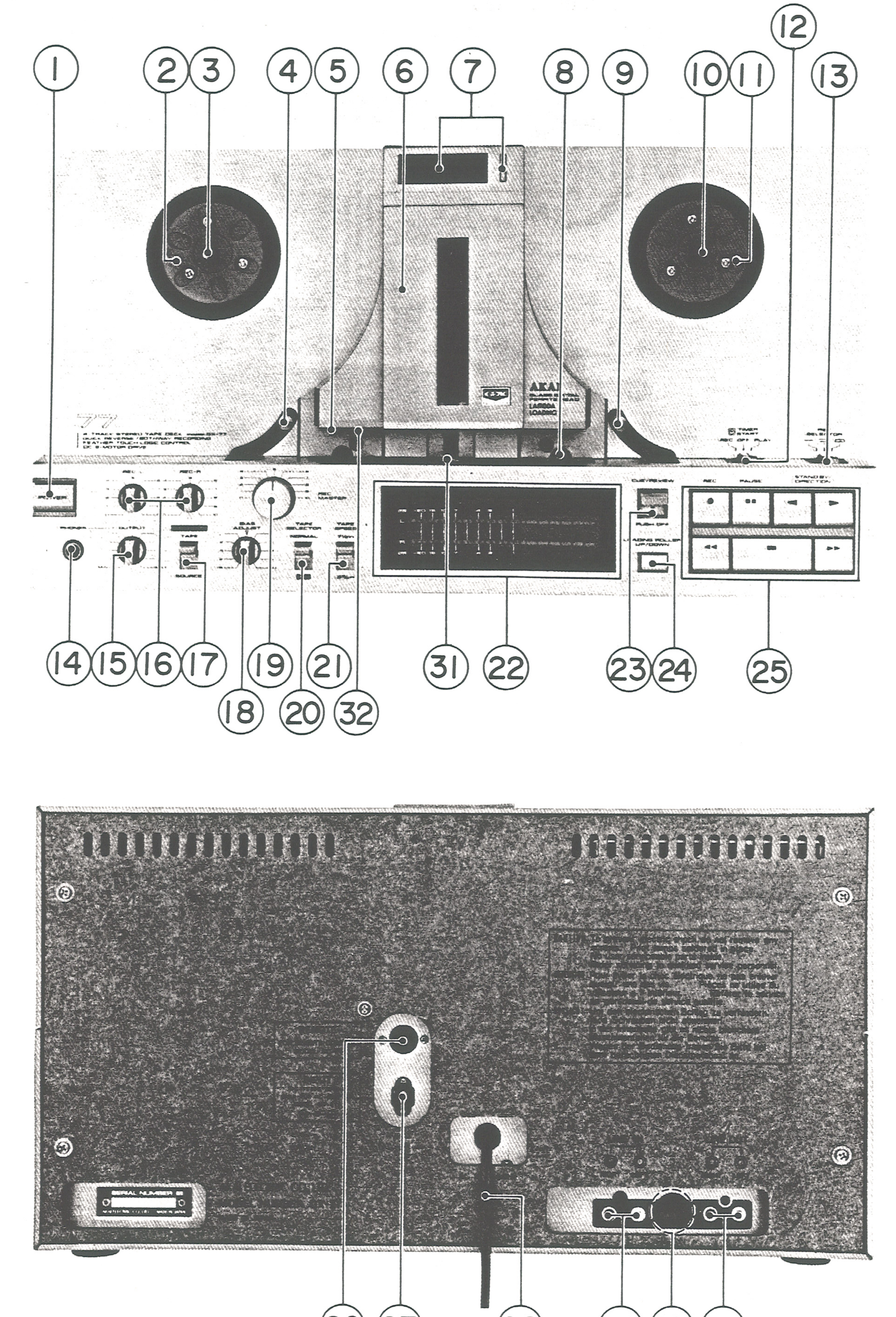

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33

Fig. 1 Controls

IV. PRINCIPAL PARTS LOCATION

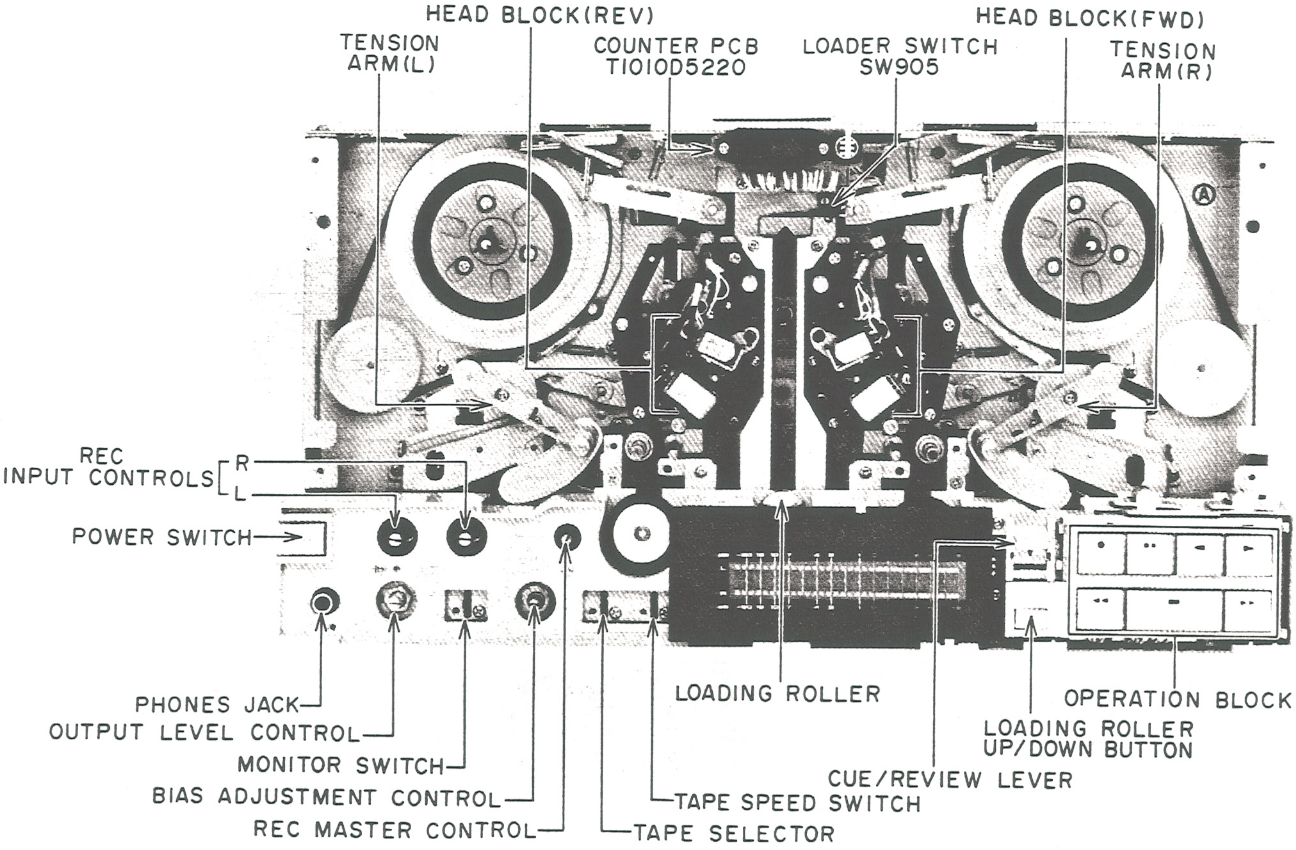

HEAD BLOCK(REV)
TENSION ARM(L)
COUNTER PCB T1010D5220
LOADER SWITCH SW905
HEAD BLOCK(FWD)
TENSION ARM(R)
REC INPUT CONTROLS R L
POWER SWITCH
PHONES JACK
OUTPUT LEVEL CONTROL
MONITOR SWITCH
BIAS ADJUSTMENT CONTROL
REC MASTER CONTROL
LOADING ROLLER
OPERATION BLOCK
LOADING ROLLER UP/DOWN BUTTON
CUE/REVIEW LEVER
TAPE SPEED SWITCH
TAPE SELECTOR

Fig. 2 Front View

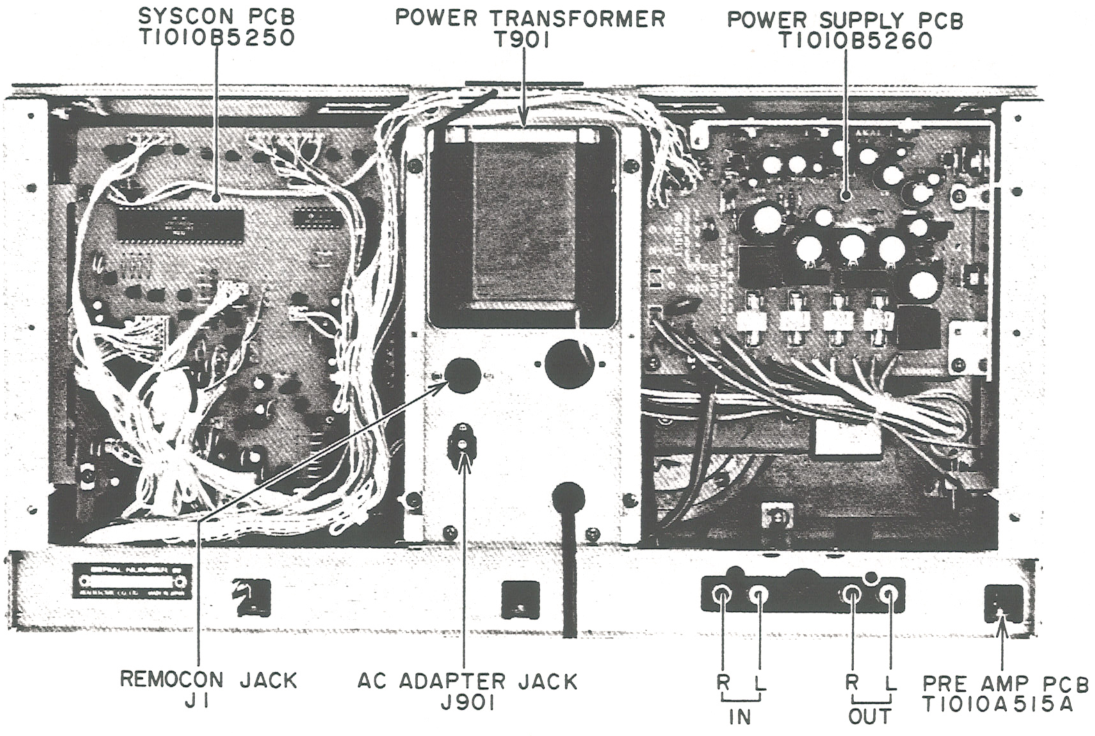

SYSCON PCB T1010B5250
POWER TRANSFORMER T901
POWER SUPPLY PCB T1010B5260
REMOCON JACK J1
AC ADAPTER JACK J901
R L IN
R L OUT
PRE AMP PCB T1010A515A

Fig. 3 Rear View

V. VOLTAGE AND CYCLE CONVERSION

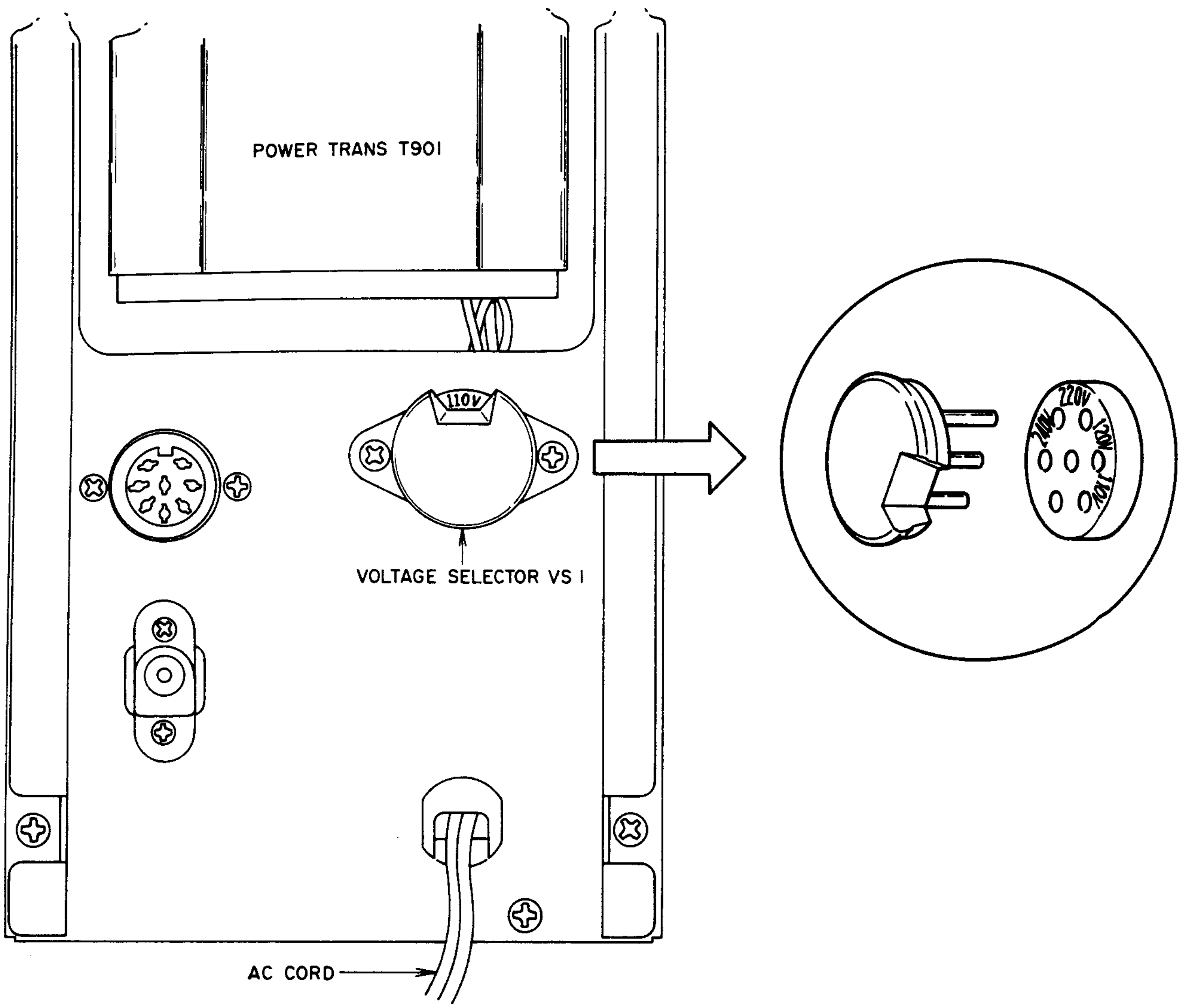


Fig. 4 Voltage Conversion (U/T Model Only)

1. VOLTAGE CONVERSION

Models for Canada, Europe, USA, UK, Australia and Japan are not equipped with this facility.

Each machine is preset at the factory according to destination, but some machines can be set to 110V, 120V or 240V as required.

If voltage change is necessary, this can be accomplished as follows:

1) Remove the back board and look for the voltage selector on the center portion of the machine.
2) Change the position of voltage selector plugs so that the voltage to be used coincides with the voltage shown through the opening of voltage selector plug.

2. CYCLE CONVERSION

With DC motor, cycle conversion is not necessary.

VI. OPERATING PRINCIPLES

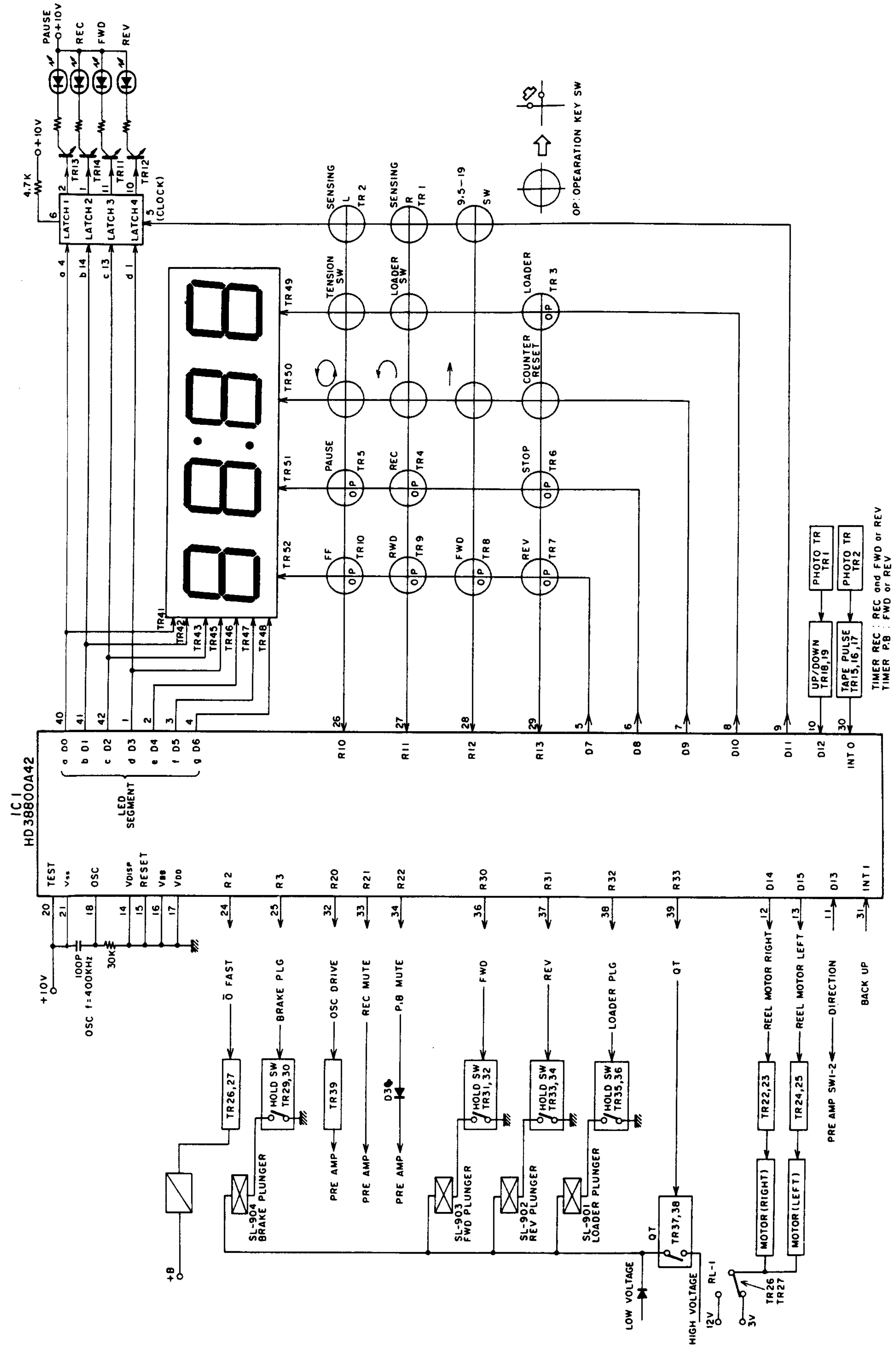

IC1
HD38800A42
TEST
Vss
OSC
VDISP
RESET
VBB
VDD
LED SEGMENT
a D0
b D1
c D2
d D3
e D4
f D5
g D6
R10
R11
R12
R13
D7
D8
D9
D10
D11
D12
INT 0
R2
R3
R20
R21
R22
R30
R31
R32
R33
D14
D15
D13
INT 1
+10V
OSC f:400KHz
100P
30K
Ō FAST
BRAKE PLG
OSC DRIVE
REC MUTE
P.B MUTE
FWD
REV
LOADER PLG
QT
REEL MOTOR RIGHT
REEL MOTOR LEFT
DIRECTION
BACK UP
TR26,27
HOLD SW TR29,30
TR39
D3
HOLD SW TR31,32
HOLD SW TR33,34
HOLD SW TR35,36
TR22,23
TR24,25
PRE AMP SW1-2
PRE AMP
SL-904 BRAKE PLUNGER
SL-903 FWD PLUNGER
SL-902 REV PLUNGER
SL-901 LOADER PLUNGER
TR37,38
MOTOR (RIGHT)
MOTOR (LEFT)
+B
LOW VOLTAGE
HIGH VOLTAGE
12V
RL-1
3V
TR26
TR27
LATCH 1
LATCH 2
LATCH 3
LATCH 4
(CLOCK)
4.7K
+10V
TR13
TR14
TR11
TR12
PAUSE
REC
FWD
REV
TR41
TR42
TR43
TR45
TR46
TR47
TR48
TR49
TR50
TR51
TR52
SENSING L TR2
SENSING R TR1
9.5-19 SW
TENSION SW
LOADER SW
LOADER TR3
COUNTER RESET
PAUSE TR5
REC TR4
STOP TR6
FF TR10
RWD TR9
FWD TR8
REV TR7
OP
OP: OPEARATION KEY SW
PHOTO TR TR1
PHOTO TR TR2
UP/DOWN TR18,19
TAPE PULSE TR15,16,17
TIMER REC : REC and FWD or REV
TIMER P.B : FWD or REV

Fig. 5 Syscon Block Diagram

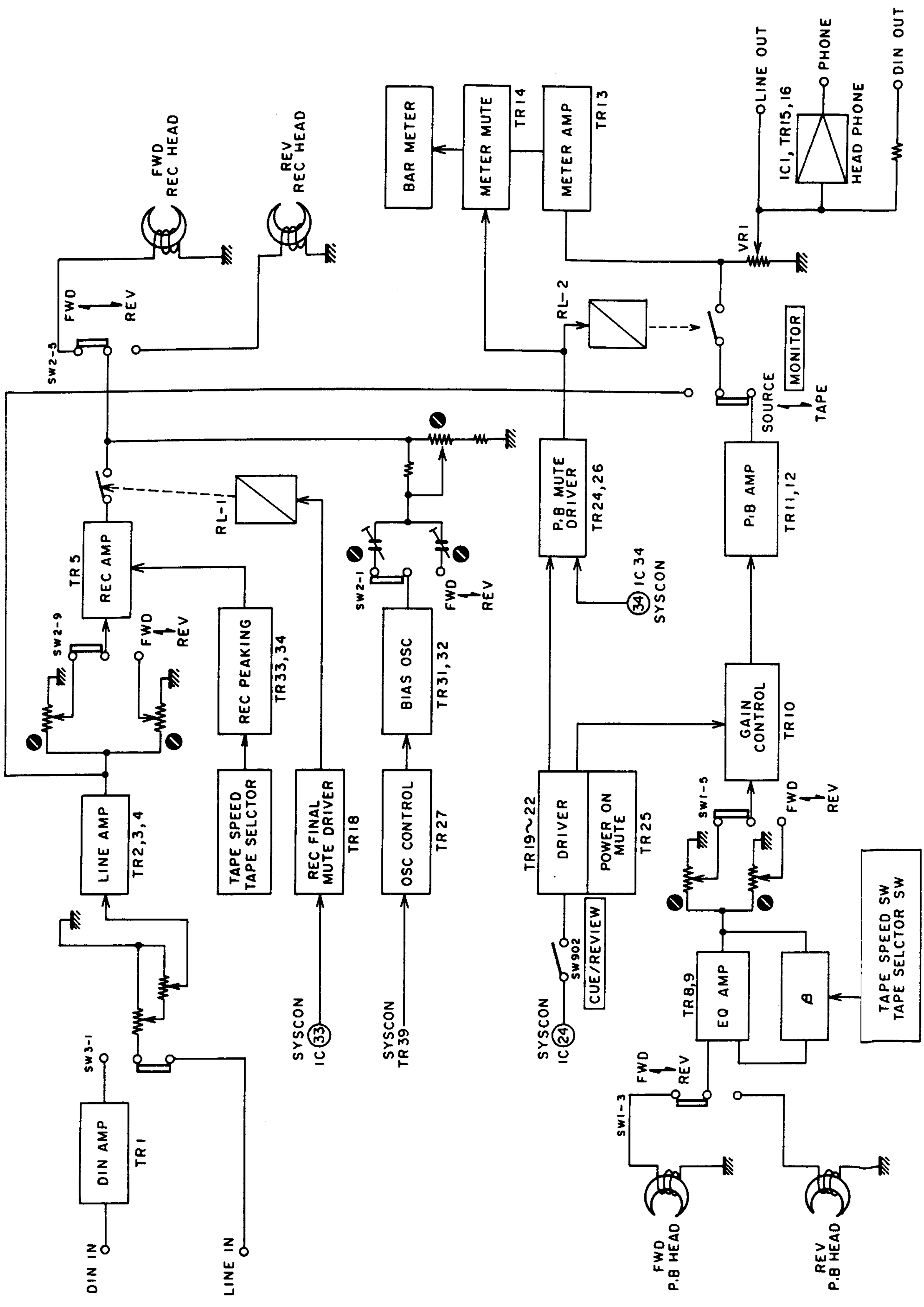

DIN IN
DIN AMP
TR1
SW3-1
LINE IN
LINE AMP
TR2,3,4
SW2-9
FWD
REV
REC AMP
TR5
RL-1
SW2-5
FWD
REV
FWD REC HEAD
REV REC HEAD
TAPE SPEED TAPE SELCTOR
REC PEAKING
TR33,34
REC FINAL MUTE DRIVER
TR18
SYSCON IC 33
OSC CONTROL
TR27
SYSCON TR39
BIAS OSC
TR31,32
SW2-1
FWD
REV
DRIVER
TR19~22
POWER ON MUTE
TR25
SW902
CUE/REVIEW
SYSCON IC 24
P.B MUTE DRIVER
TR24,26
IC 34 SYSCON
RL-2
BAR METER
METER MUTE
TR14
METER AMP
TR13
VR1
MONITOR
SOURCE
TAPE
LINE OUT
IC1, TR15,16
PHONE
HEAD PHONE
DIN OUT
P.B AMP
TR11,12
GAIN CONTROL
TR10
SW1-5
FWD
REV
EQ AMP
TR8,9
β
TAPE SPEED SW
TAPE SELCTOR SW
SW1-3
FWD
REV
FWD P.B HEAD
REV P.B HEAD

Fig. 6 Pre Amp Block Diagram

1. TIMING CHART OF EACH MODE

1) Loading, Unloading Mode (Refer to Fig. 7)

LOADING and UNLOADING do not work during FWD, FWD/REC, REV, REV/REC, FF and RWD and during loading or unloading.

The loader PLG can be pulled many times by turning the operation "loader" ON while SW905 (loader) is ON (IC1 ㊳ will be "H").

If the loader SW is pressed, ㊳ will be "H" for about 0.2 sec. and then, TR35, 36 ON and the loader PLG, SW905 ON and the gear of the capstan flywheel will be engaged with the loading gear, and the loading arm is lifted by the rotating power of the loading gear, i.e., the rotating movement is changed into the linear movement. After loading, the loading gear makes one turn to return to the original position and the link-up with the flywheel will be off.

2) Timer Start Off (no tape) SW904 (tension off) (Refer to Fig. 8)

If the operation loader key or FWD, REV, FF or RWD is turned ON, IC1 ㊳ becomes "H" to pull the loader PLG and then, the loader gear is rotated, SW903 (motor SW) ON, and the right and left reel motors are rotated.

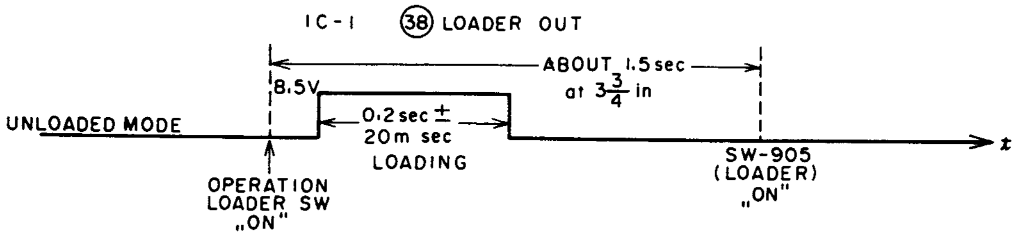

IC-I ㊳ LOADER OUT
ABOUT 1.5 sec
at $3\frac{3}{4}$ in
8.5V
UNLOADED MODE
0.2 sec ± 20m sec
LOADING
OPERATION LOADER SW „ON"
SW-905 (LOADER) „ON"
t

Fig. 7

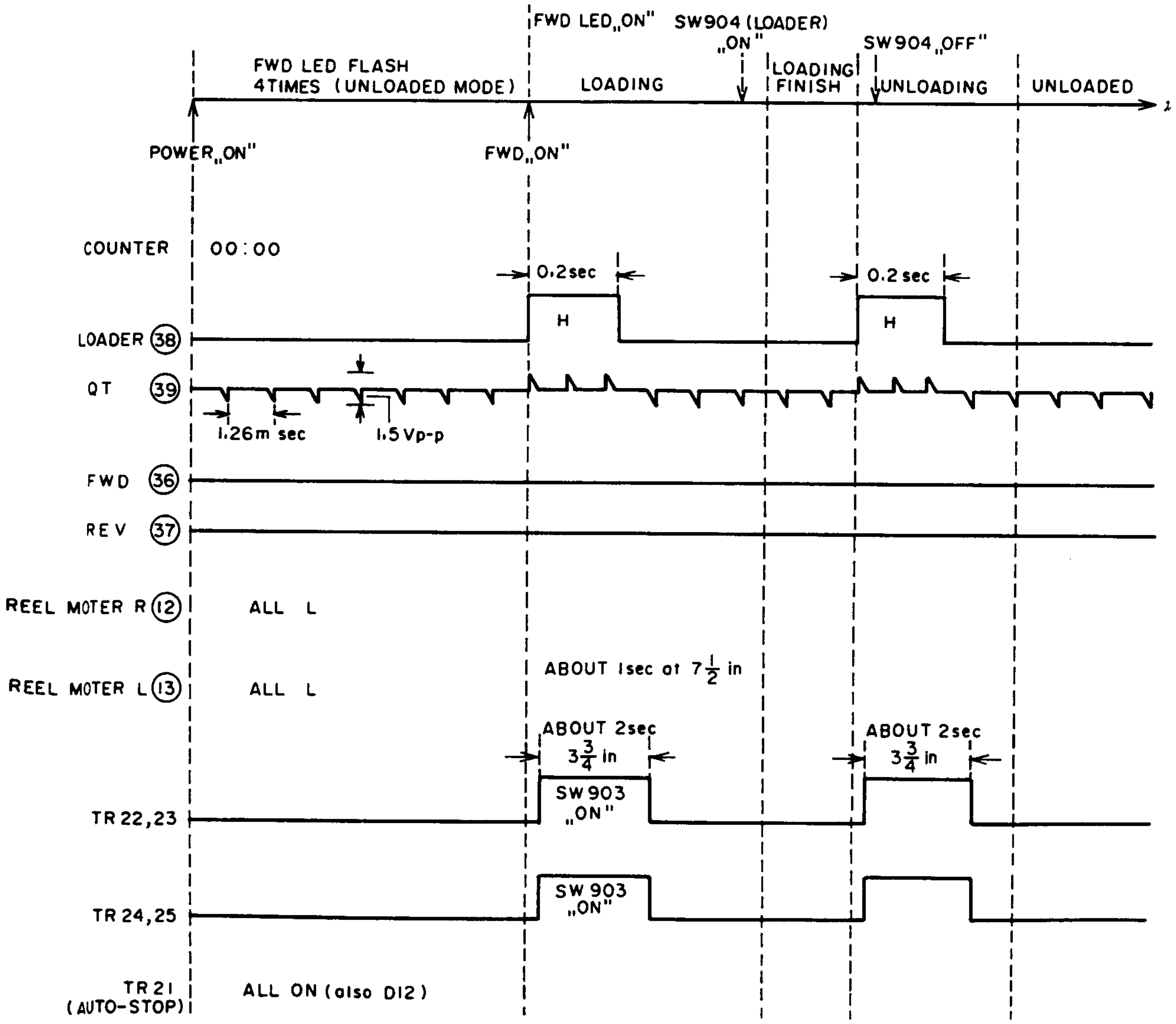

FWD LED FLASH 4TIMES (UNLOADED MODE)
FWD LED „ON"
LOADING
SW904 (LOADER) „ON"
LOADING FINISH
SW904 „OFF"
UNLOADING
UNLOADED
t
POWER „ON"
FWD „ON"
COUNTER
00:00
0.2sec
H
0.2 sec
H
LOADER ㊳
QT ㊴
1.26m sec
1.5Vp-p
FWD ㊱
REV ㊲
REEL MOTER R ⑫
ALL L
REEL MOTER L ⑬
ALL L
ABOUT 1sec at $7\frac{1}{2}$ in
ABOUT 2sec $3\frac{3}{4}$ in
ABOUT 2sec $3\frac{3}{4}$ in
SW903 „ON"
TR 22,23
SW 903 „ON"
TR 24,25
TR 21 (AUTO-STOP)
ALL ON (also D12)

Fig. 8

3) FWD Mode (tape loaded) SW904 (tension on)

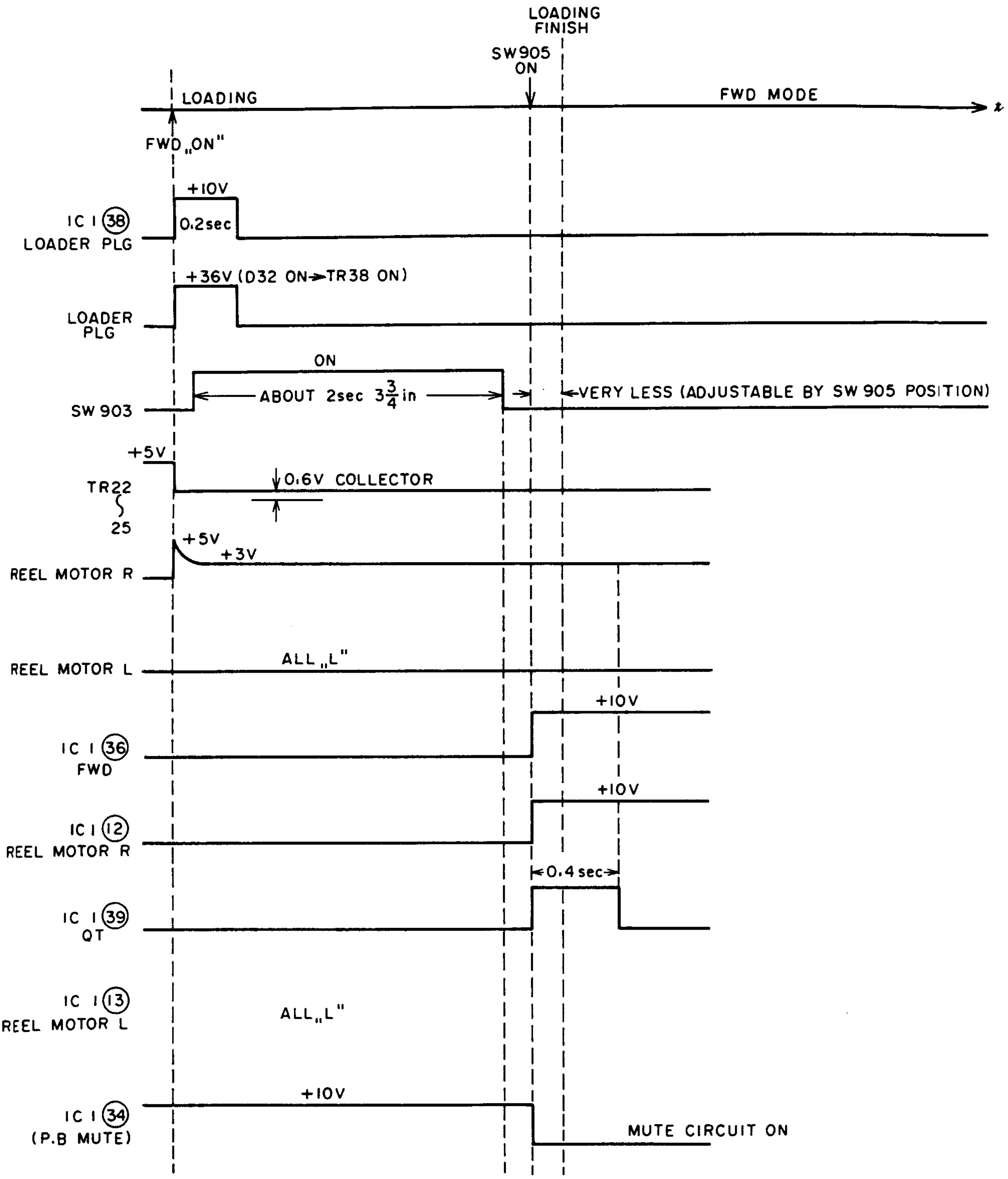

LOADING FINISH
SW905 ON
LOADING
FWD MODE
t
FWD „ON"
+10V
IC 1 ㊳ LOADER PLG
0.2sec
+36V (D32 ON→TR38 ON)
LOADER PLG
ON
ABOUT 2sec $3\frac{3}{4}$in
VERY LESS (ADJUSTABLE BY SW 905 POSITION)
SW 903
+5V
TR22 ∫ 25
0.6V COLLECTOR
+5V
+3V
REEL MOTOR R
REEL MOTOR L
ALL „L"
+10V
IC 1 ㊱ FWD
+10V
IC 1 ⑫ REEL MOTOR R
0.4 sec
IC 1 ㊴ QT
IC 1 ⑬ REEL MOTOR L
ALL „L"
+10V
IC 1 ㉞ (P.B MUTE)
MUTE CIRCUIT ON

Fig. 9

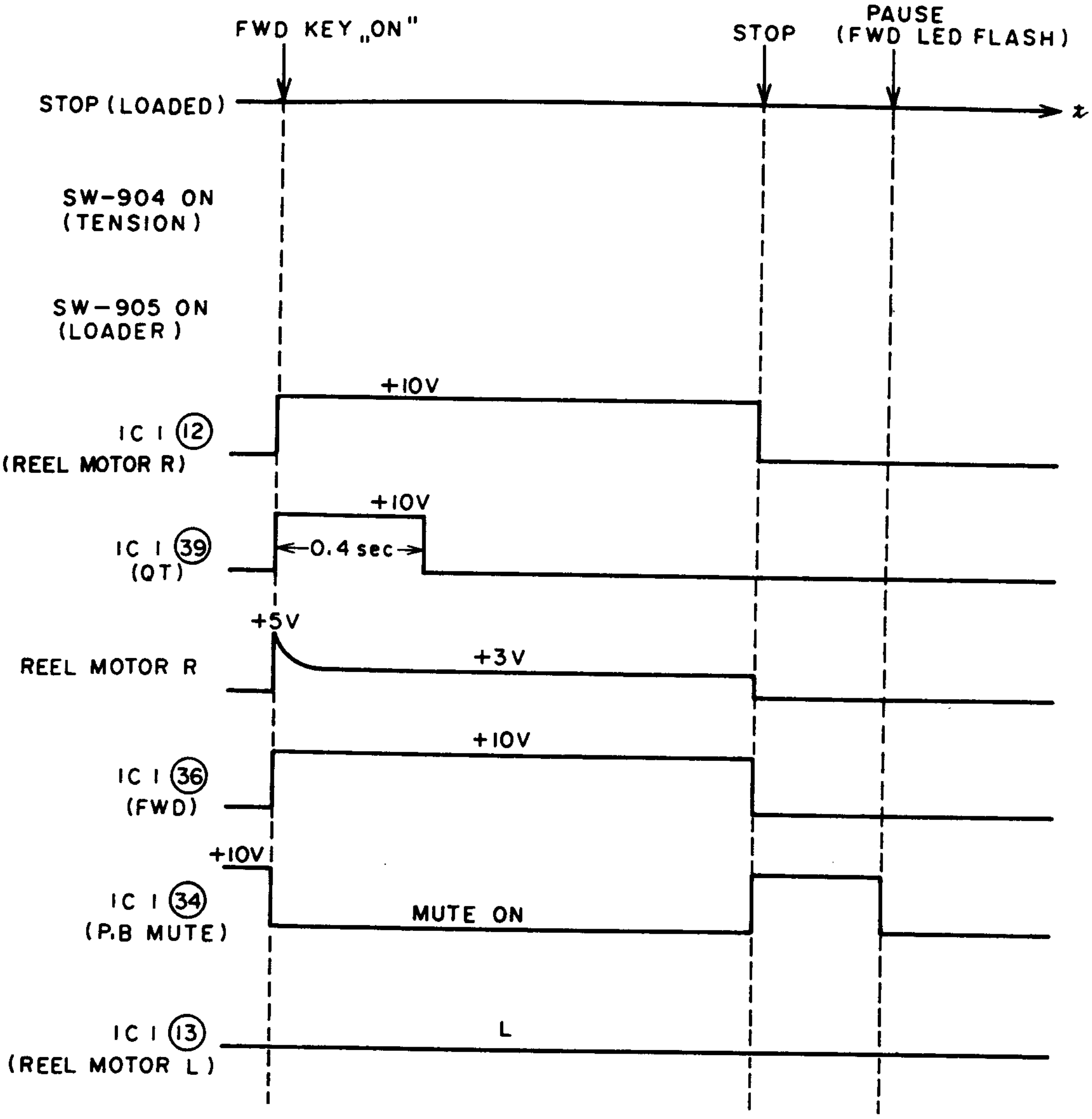

FWD KEY „ON"
STOP
PAUSE (FWD LED FLASH)
STOP (LOADED)
t
SW-904 ON (TENSION)
SW-905 ON (LOADER)
+10V
IC 1 ⑫ (REEL MOTOR R)
+10V
IC 1 ㊴ (QT)
0.4 sec
+5V
REEL MOTOR R
+3V
+10V
IC 1 ㊱ (FWD)
+10V
IC 1 ㉞ (P.B MUTE)
MUTE ON
IC 1 ⑬ (REEL MOTOR L)
L

Fig. 10

4) FWD Mode After Loading (Tape Loaded) (Refer to Fig. 10)

If FWD key is turned ON after loading, ⑫ will be "H", ㊴ "H" (for 0.4 sec.), and +36V is applied to FWD PLG, and TR31, TR32 "ON", and after 0.4 sec., the voltage will be changed to +14V (because of TR38 OFF).

Because of TR22, 23 "ON", the original +5V on the right reel motor will be changed to +2.7V (due to power regulation).

The left reel motor has 0V (only mechanical tension is operated) and ㉞ will be changed from "H" to "L", and the pre amplifier MUTE is released.

5) STOP → FWD → REV → PAUSE Mode (Refer to Fig. 11)

For FWD to REV, ㊴ (QT relay) becomes "H" for 0.4 sec., TR37 "OFF" and TR38 "ON", and +36V is applied to each plunger.

After 0.4 sec., TR38 becomes "OFF", and +14V is applied to each plunger. For each reel motor, the first +5V and then reduced to +2.7V in FWD and REV mode.

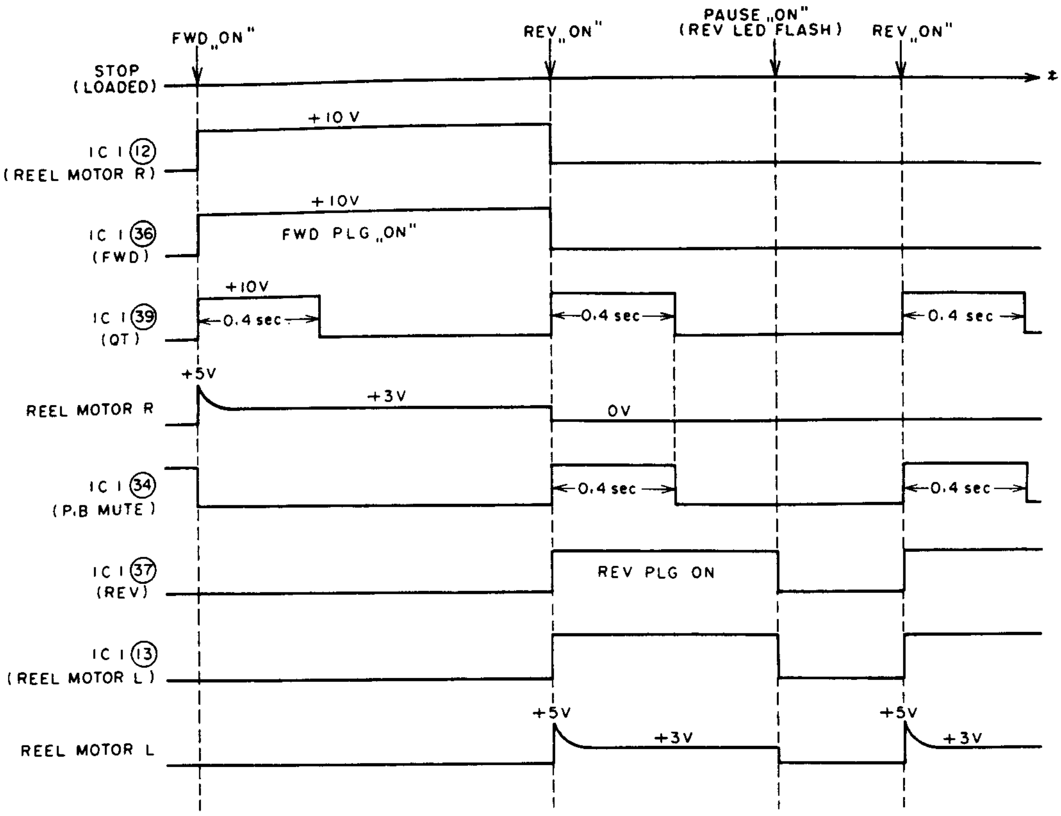

FWD „ON"
REV „ON"
PAUSE „ON" (REV LED FLASH)
REV „ON"
STOP (LOADED)
t
IC 1 ⑫ (REEL MOTOR R)
+10 V
IC 1 ㊱ (FWD)
+10V
FWD PLG „ON"
IC 1 ㊴ (QT)
+10V
0.4 sec
0.4 sec
0.4 sec
REEL MOTOR R
+5V
+3V
0V
IC 1 ㉞ (P.B MUTE)
0.4 sec
0.4 sec
IC 1 ㊲ (REV)
REV PLG ON
IC 1 ⑬ (REEL MOTOR L)
REEL MOTOR L
+5V
+3V
+5V
+3V

Fig. 11

6) REC/FWD → REC/REV → REC/REV/PAUSE Mode

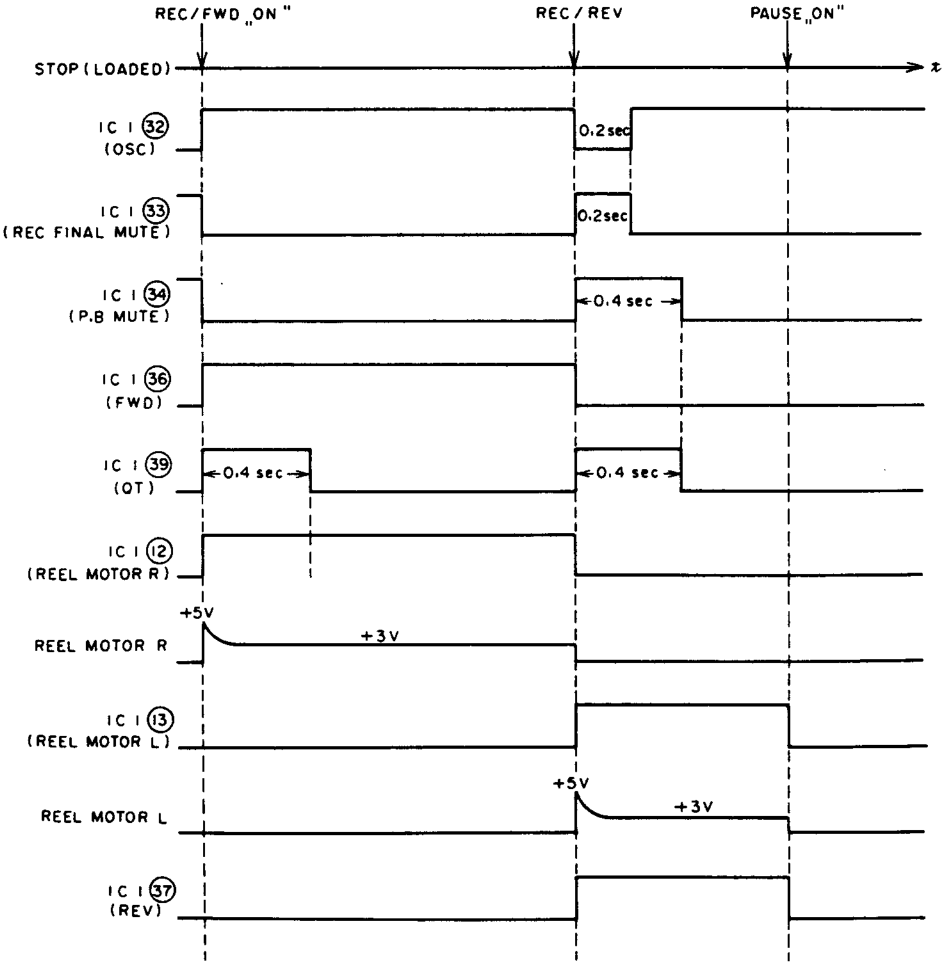

REC/FWD „ON"
REC/REV
PAUSE „ON"
STOP (LOADED)
t
IC 1 ㉜ (OSC)
0.2sec
IC 1 ㉝ (REC FINAL MUTE)
0.2sec
IC 1 ㉞ (P.B MUTE)
0.4 sec
IC 1 ㊱ (FWD)
IC 1 ㊴ (QT)
0.4 sec
0.4 sec
IC 1 ⑫ (REEL MOTOR R)
REEL MOTOR R
+5V
+3V
IC 1 ⑬ (REEL MOTOR L)
REEL MOTOR L
+5V
+3V
IC 1 ㊲ (REV)

Fig. 12

7) STOP → FF → RWD Mode

If, in FF and RWD, ㉔ (Ō FAST) becomes "H", TR26 and 27 "ON" and RL1 "ON", and +12V is applied to each reel motor. For the brake PLG, ㊴ (QT relay) is "H" for 0.4 sec. and during the time, +36V and then reduced to +14V.

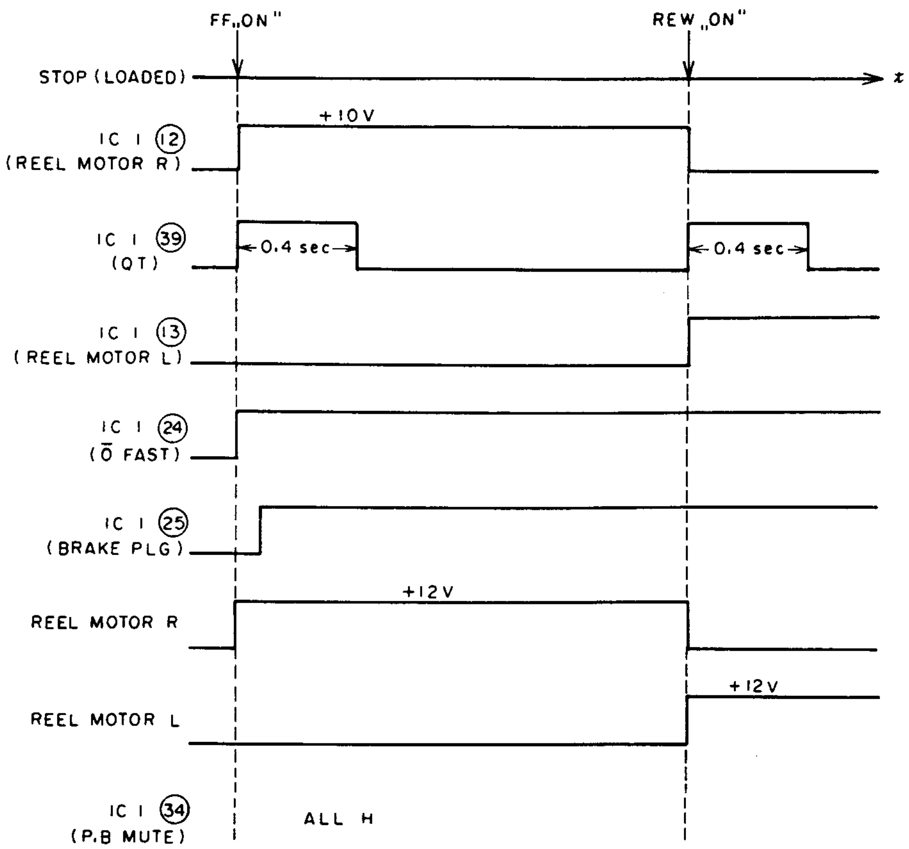

FF "ON"
REW "ON"
STOP (LOADED)
t
+10V
IC 1 ⑫
(REEL MOTOR R)
IC 1 ㊴
(QT)
0.4 sec
0.4 sec
IC 1 ⑬
(REEL MOTOR L)
IC 1 ㉔
(Ō FAST)
IC 1 ㉕
(BRAKE PLG)
+12V
REEL MOTOR R
+12V
REEL MOTOR L
IC 1 ㉞
(P.B MUTE)
ALL H

Fig. 13

8) FF → FWD Mode

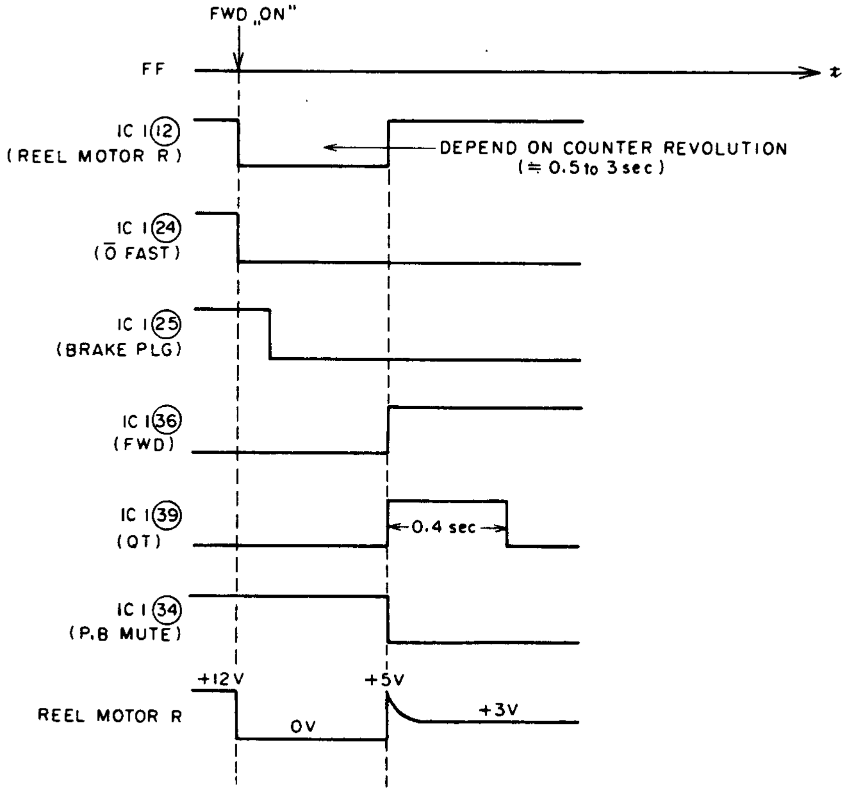

FWD "ON"
FF
t
IC 1⑫
(REEL MOTOR R)
DEPEND ON COUNTER REVOLUTION
(≒ 0.5 to 3 sec)
IC 1㉔
(Ō FAST)
IC 1㉕
(BRAKE PLG)
IC 1㊱
(FWD)
IC 1㊴
(QT)
0.4 sec
IC 1㉞
(P.B MUTE)
+12V
+5V
REEL MOTOR R
0V
+3V

Fig. 14

9) Timer Start

a) OFF Mode

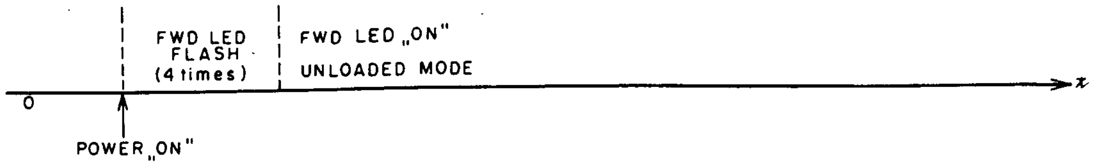
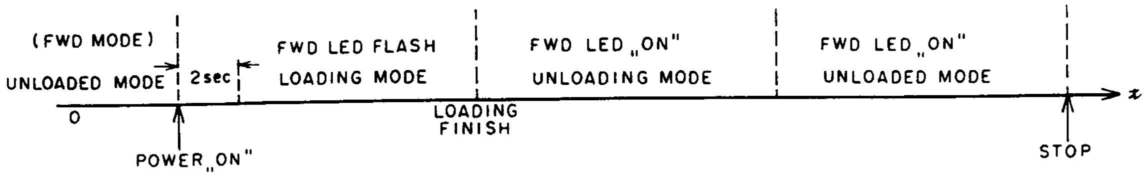

FWD LED FLASH (4 times)
FWD LED „ON"
UNLOADED MODE
0
POWER „ON"
t

Fig. 15

b) PLAY Mode

(When tape not loaded)


(FWD MODE)
UNLOADED MODE
2sec
FWD LED FLASH
LOADING MODE
FWD LED „ON"
UNLOADING MODE
FWD LED „ON"
UNLOADED MODE
0
LOADING FINISH
POWER „ON"
STOP
t

(When tape loaded)

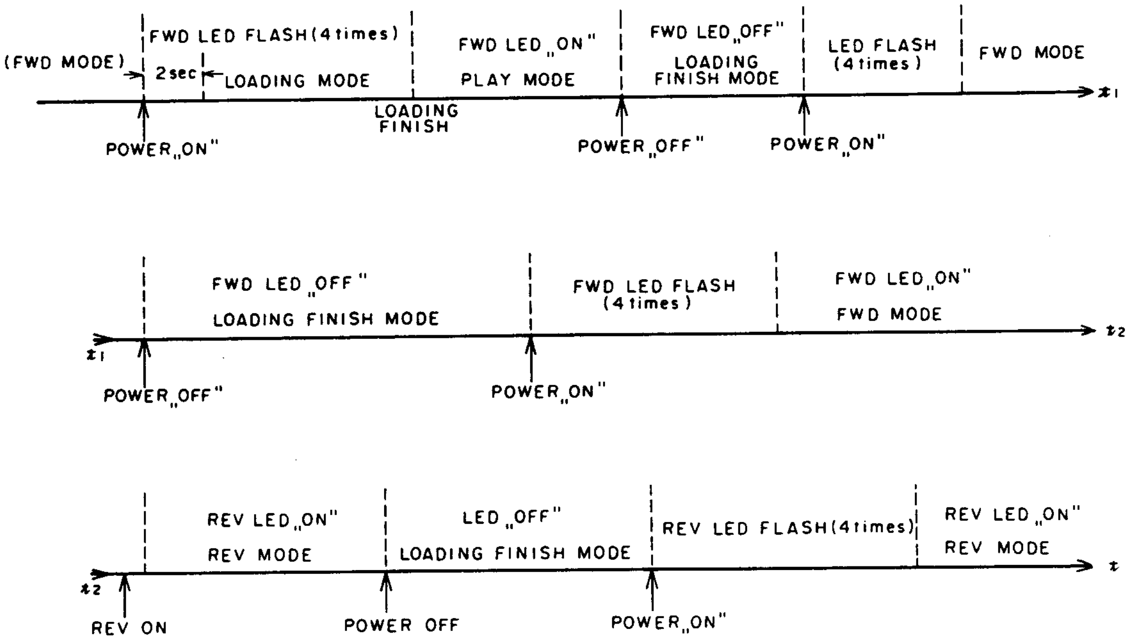

(FWD MODE)
FWD LED FLASH (4 times)
2sec
LOADING MODE
FWD LED „ON"
PLAY MODE
FWD LED „OFF"
LOADING FINISH MODE
LED FLASH (4 times)
FWD MODE
LOADING FINISH
POWER „ON"
POWER „OFF"
POWER „ON"
t1
t1
FWD LED „OFF"
LOADING FINISH MODE
FWD LED FLASH (4 times)
FWD LED „ON"
FWD MODE
POWER „OFF"
POWER „ON"
t2
t2
REV LED „ON"
REV MODE
LED „OFF"
LOADING FINISH MODE
REV LED FLASH (4 times)
REV LED „ON"
REV MODE
REV ON
POWER OFF
POWER „ON"
t

Fig 16

c) REC Start Mode

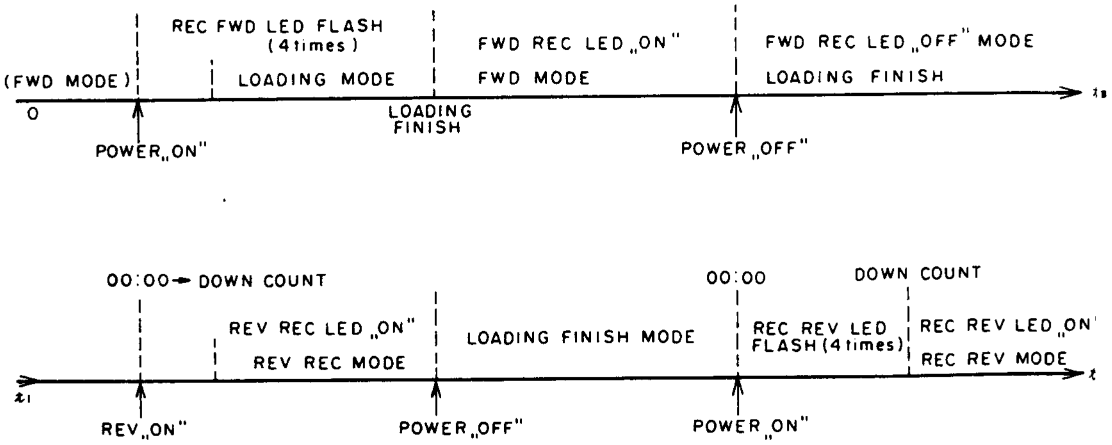

(FWD MODE)
REC FWD LED FLASH (4 times)
LOADING MODE
FWD REC LED „ON"
FWD MODE
FWD REC LED „OFF" MODE
LOADING FINISH
0
LOADING FINISH
POWER „ON"
POWER „OFF"
t1
00:00 → DOWN COUNT
REV REC LED „ON"
REV REC MODE
LOADING FINISH MODE
00:00
DOWN COUNT
REC REV LED FLASH (4 times)
REC REV LED „ON"
REC REV MODE
t1
REV „ON"
POWER „OFF"
POWER „ON"
t

Fig. 17

2. EXPLANATION OF EACH MODE

1) IC1 (HD38800A42) Terminal Description

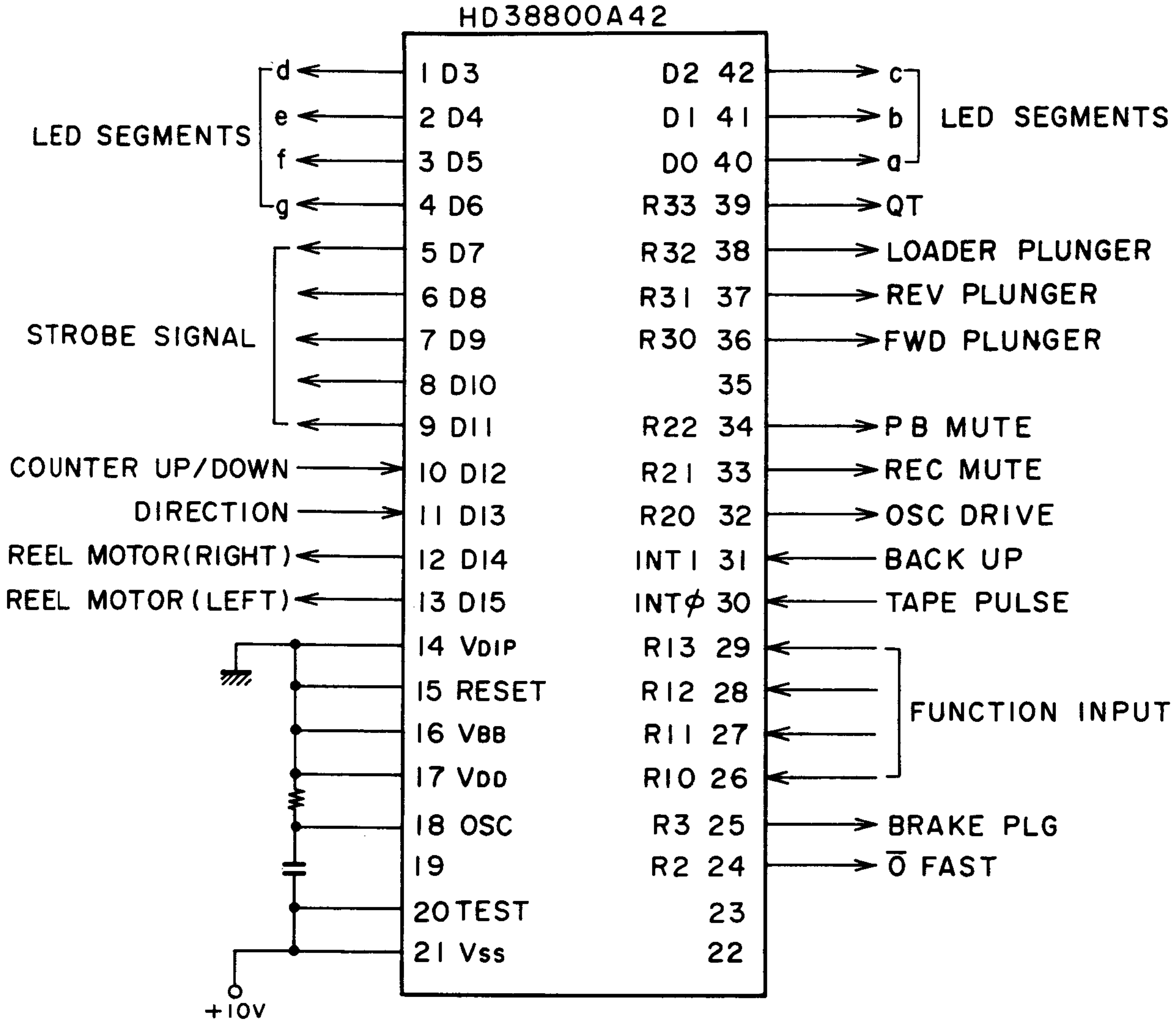

HD38800A42
LED SEGMENTS
d
e
f
g
STROBE SIGNAL
COUNTER UP/DOWN
DIRECTION
REEL MOTOR(RIGHT)
REEL MOTOR (LEFT)
+10V
1 D3
2 D4
3 D5
4 D6
5 D7
6 D8
7 D9
8 D10
9 D11
10 D12
11 D13
12 D14
13 D15
14 VDIP
15 RESET
16 VBB
17 VDD
18 OSC
19
20 TEST
21 Vss
D2 42
D1 41
D0 40
R33 39
R32 38
R31 37
R30 36
35
R22 34
R21 33
R20 32
INT1 31
INTϕ 30
R13 29
R12 28
R11 27
R10 26
R3 25
R2 24
23
22
c
b
a
LED SEGMENTS
QT
LOADER PLUNGER
REV PLUNGER
FWD PLUNGER
PB MUTE
REC MUTE
OSC DRIVE
BACK UP
TAPE PULSE
FUNCTION INPUT
BRAKE PLG
$\overline{0}$ FAST

Fig. 18

2) Terminal Conditions in Each Mode

IC-1 PIN NUMBER	㊳ LOADER	㊴ OT	㊱ FWD	㊲ REV	⑫ REEL MOTOR R	⑬ REEL MOTOR L	㉞ P.B MUTE	㉜ OSC	㉝ REC MUTE	㉔ Ō FAST	㉕ BRAKE PLUNGER
STOP	L	L	L	L	L	L	H	L	H	L	L
LOADING	H(M)	L	L	L	L	L	H	L	H	L	L
FWD	L	H(M)	H	L	H	L	L	L	H	L	L
REV	L	H(M)	L	H	L	H	L	L	H	L	L
FWD/PAUSE	L	L	L	L	L	L	L	L	H	L	L
REV/PAUSE	L	L	L	L	L	L	L	L	H	L	L
REC/FWD	L	H(M)	H	L	H	L	L	H	L	L	L
REC/REV	L	H(M)	L	H	L	H	L	H	L	L	L
REC/FWD/PAUSE	L	L	L	L	L	L	L	H	L	L	L
REC/REV/PAUSE	L	L	L	L	L	L	L	H	L	L	L
FF	L	H(M)	L	L	H	L	H	L	H	H	H
RWD	L	H(M)	L	L	L	H	H	L	H	H	H
UNLOADING	H(M)	L	L	L	L	L	H	L	H	L	L

※M : MOMENTALY

Fig. 19

3) Output Waveforms of IC1 Terminals ⑤ to ⑨

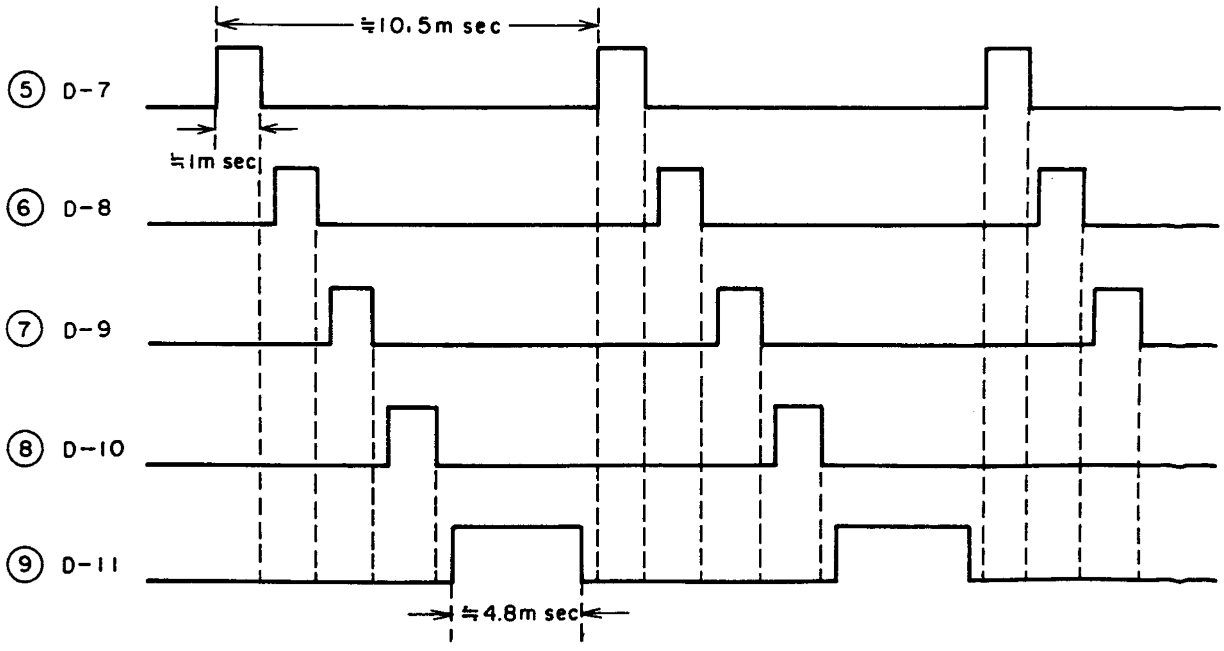


Fig. 20

4) Power ON

Without any input conditions (such as operation key is not pressed) through the built-in reset circuit, IC1 performs no operation. (In order to meet the conditions for the operation of the built-in reset circuit, 3 terminal regulator is used only for the IC1 power source)

5) Loading Mode After Power ON

If the loading operation SW, etc. is pressed, the output of IC1 ⑧ enters ㉙ through TR3, and ㊳ (loader plunger) changes from "L" to "H" (≒ 10V) for 0.2 sec., TR35 and 36 "ON" and TR37 and 38 ON through D32, and +36V is added to the loader plunger. Because the loader plunger is ON for about 0.2 sec., the loading gear starts rotating via the capstan flywheel, and the motor SW (SW903) interlocked with it will be ON until the gear finishes one turn, and then TR22 to TR25 ON, and the voltage (+5V under no load, +3V after motor loading) is added to the right and left reel motors which turn in the respective winding direction. Thus the tension is added to the tape to prevent sagging even if the mechanical brake interlocked with the loading gear is released during loading.

The completion of loading is detected by SW905, i.e., the next operation is not available until the SW905 is ON.

6) FWD Mode After Loading

With FWD key ON, the output of IC1 ⑤ is inputted into ㉘ and ⑫ "L" → "H", ㊱ "L" → "H", and then TR31, 32 ON, TR 22, 23 ON, and the right reel motor rotates, FWD plunger is also ON and the right pinch roller is pulled. The right and left brakes mechanically interlocked with the FWD plunger are released. The supply back tension is added to the reel table by the brake pad interlocked with the supply tension arm. (The supply motor rotates freely). ㊴ (QT) is also ON for 0.4 sec. and +36V is added to the plunger → subsequently held at +14V.

With ㉞ (P.B. Mute) "H" → "L", Mute will be off.

7) REV Mode (reverse operation to FWD)

IC1 ⑬ "H" → left reel motor rotates
㊲ "H" → FWD plunger ON
㊴ "H" (for 0.4 sec.) → +36V → +14V
㉞ "L" → Mute Off.

8) FF Mode

IC1 ㉔ ($\overline{\text{O}}$ FAST) "L" → "H", TR26, 27 ON, RL1 ON, and +12V is added to the reel motor, ⑫ (right motor) "L" → "H", TR22, 23 ON, and the right reel motor rotates at a high speed. ㉕ (brake plunger) "L" → "H", TR31, 32 ON, brake PLG ON, and the supply motor rotates freely (the reel table is only receiving mechanical free tension). ㉞ (PB Mute) is fixed at "H" and the line output is cut off.

9) RWD Mode (reverse operation to FF)

IC1 ㉔ ($\overline{\text{O}}$ FAST) "L" → "H", RL1 ON, +12V applied
㉕ (brake plunger) "L" → "H", brake released
⑬ (left motor) "L" → "H", left reel motor rotates at high speed.
㉞ (PB Mute) fixed at "H", and line output cut off.

10) FWD/REC Mode

With the input IC1 ⑤ → ㉘ and at the same time IC1 ⑥ → ㉗, the output of IC1, with FWD mode output, ㉜ "L" → "H", TR39 ON, operates the OSC circuit of the preamplifier. ㉝ "H" → "L", preamplifier TR17 OFF, TR18 ON, RL1 (Rec Mute Relay) ON, and the preamplifier REC input signal is added to the Rec head. ㉞ "H" → "L" and PB Mute released.

11) FWD, REV Direction (Refer to Fig. 21)

SW1 – 2 (Pre Amp PCB) Signal from REV → FWD SW.

If IC1 ⑪ is "L" (REV mode), IC1 will be in REV STANDBY mode, i.e., when IC1 ① is ON, "L" → "H" → "L" is repeated 4 times → (REV LED flashes 4 times) and then fixed at "H" → (LED "ON"). (See the description of lighting circuit operation).

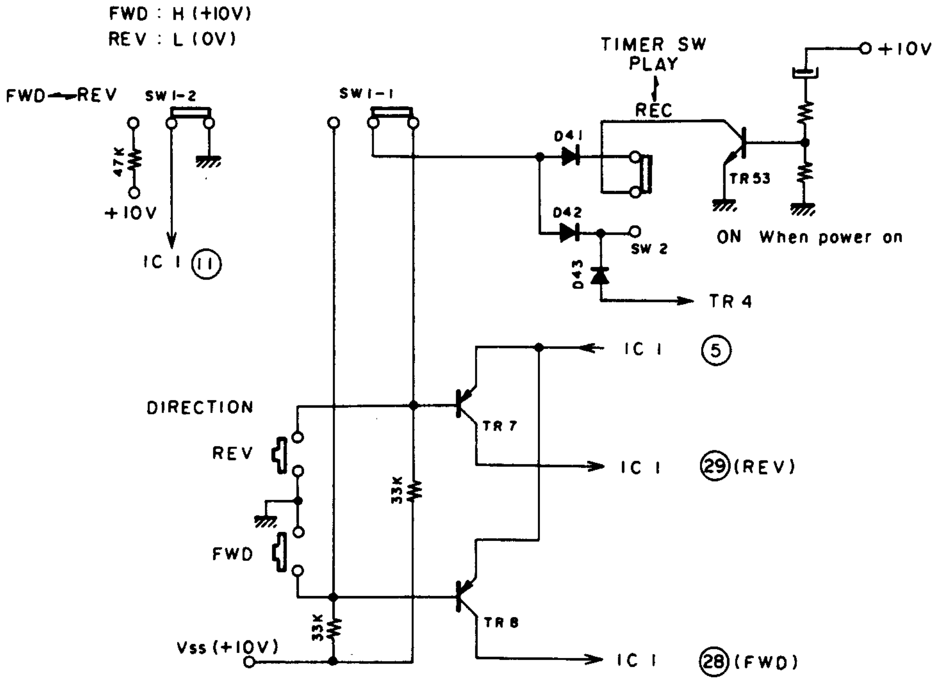

FWD : H (+10V)
REV : L (0V)
FWD→REV
SW1-2
47K
+10V
IC 1 ⑪
SW1-1
TIMER SW
PLAY
REC
+10V
D41
D42
SW 2
D43
TR53
ON When power on
TR 4
IC 1 ⑤
DIRECTION
REV
TR 7
IC 1 ㉙(REV)
33K
FWD
TR 8
Vss (+10V)
33K
IC 1 ㉘(FWD)

Fig. 21

3. EXPLANATION OF EACH CIRCUIT

1) Circuit to Prevent Tape Sagging When Power is ON

+14V → REV, FWD PLG → C5, C6 → D19, D18 → R56, R58 → TR22, 24 runs the charging current, and in the meantime, the right and left reel motors are energized to prevent the tape from sagging (Brake is also mechanically on the reel table).

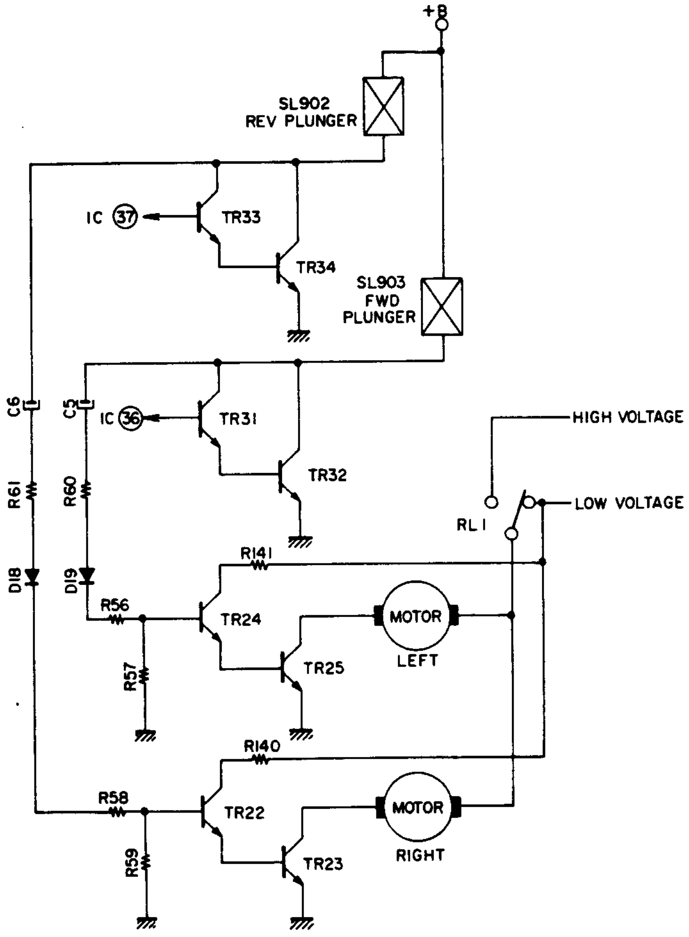

+B
SL902
REV PLUNGER
IC ㊲
TR33
TR34
SL903
FWD
PLUNGER
C6
C5
IC ㊱
TR31
TR32
HIGH VOLTAGE
LOW VOLTAGE
RL1
R61
R60
R141
D18
D19
R56
TR24
MOTOR
LEFT
TR25
R57
R140
R58
TR22
MOTOR
RIGHT
R59
TR23

Fig. 22

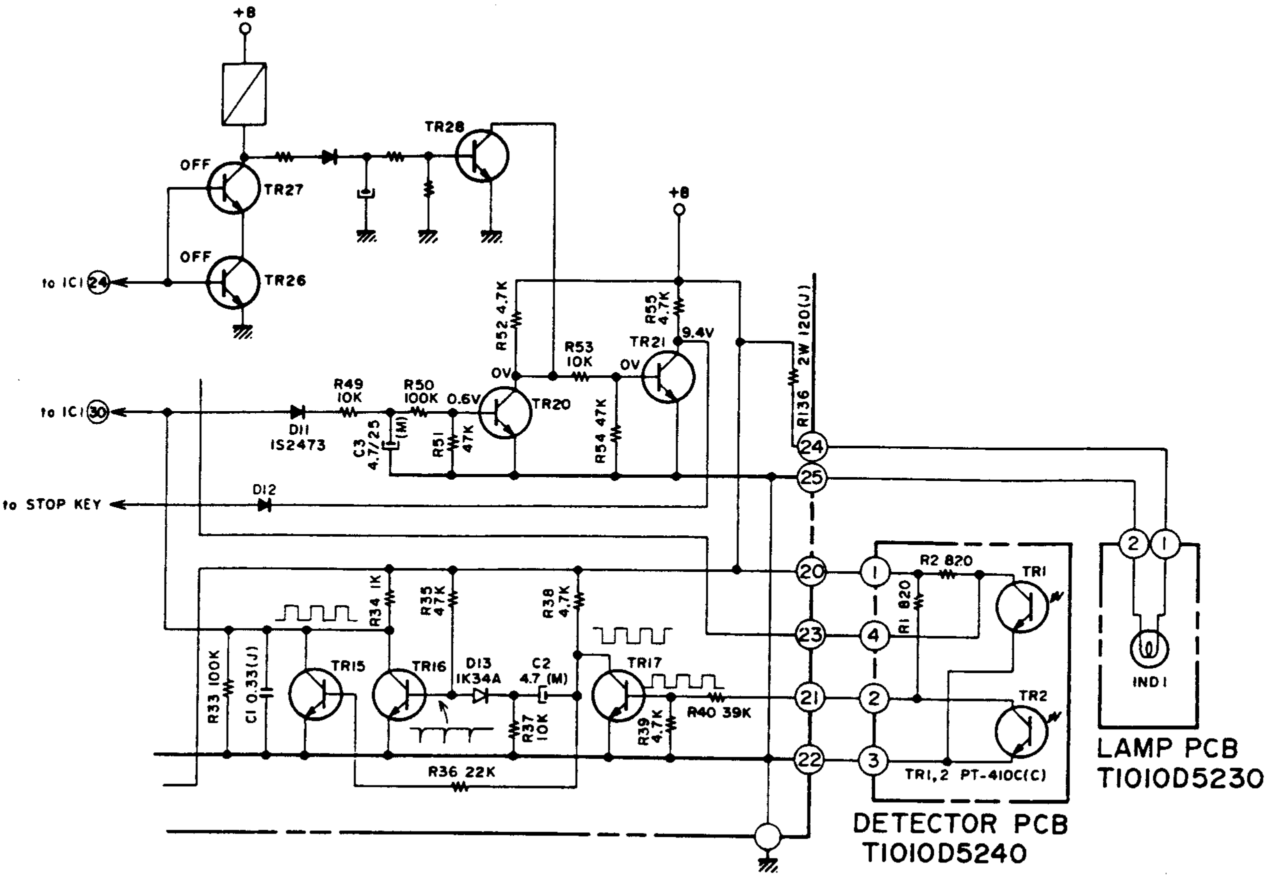

+8
TR28
OFF
TR27
OFF
TR26
to IC1 ㉔
+8
R52 4.7K
R55 4.7K
9.4V
R53 10K
TR21
0V
0V
2W 120(J)
R136
R49 10K
R50 100K
0.6V
TR20
to IC1 ㉚
D11 1S2473
C3 4.7/25
(M)
R51 47K
R54 47K
㉔
㉕
to STOP KEY
D12
⑳
㉓
㉑
㉒
R2 820
TR1
R1 820
TR2
TR1,2 PT-410C(C)
②
①
IND1
LAMP PCB T1010D5230
R34 1K
R35 47K
R38 4.7K
R33 100K
C1 0.33(J)
TR15
TR16
D13 1K34A
C2 4.7 (M)
TR17
R37 10K
R39 4.7K
R40 39K
R36 22K
DETECTOR PCB T1010D5240

Fig. 23

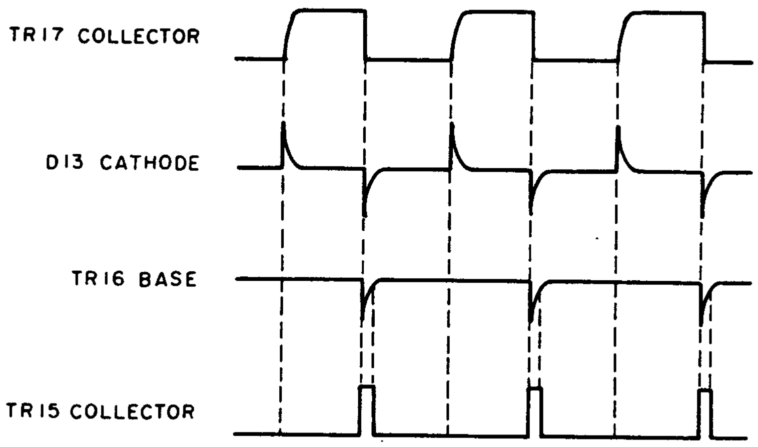

TR17 COLLECTOR
D13 CATHODE
TR16 BASE
TR15 COLLECTOR

Fig. 24

2) Auto Stop Circuit (Refer to Figs. 23, 24)

Photo TR (TR2) is repeating ON/OFF when the tape is running.

The pulse of TR15 collector is added to IC1 ㉚ and TR20 base.

TR20 collector is connected with TR28 collector, and while TR28 base is "H", TR21 is "OFF", i.e., no auto-stop. In FWD and REV, the auto-stop functions when the tape is winder up by the take-up reel, tension arm (right) is lowered, and micro SW SW904 is shut off. In FF and REW, same as in FWD and REV, the auto-stop works about 4 seconds after the micro SW SW904 is shut off and the tape pulse is gone.

In FWD, REV and FF, REW, the positions of TR28 and D12 are as follows.

	FWD, REV →	FF, REW
TR28 :	ON (Always)	ON → OFF
D12 :	OFF (Always)	ON about 4 seconds after tape pulse disappears

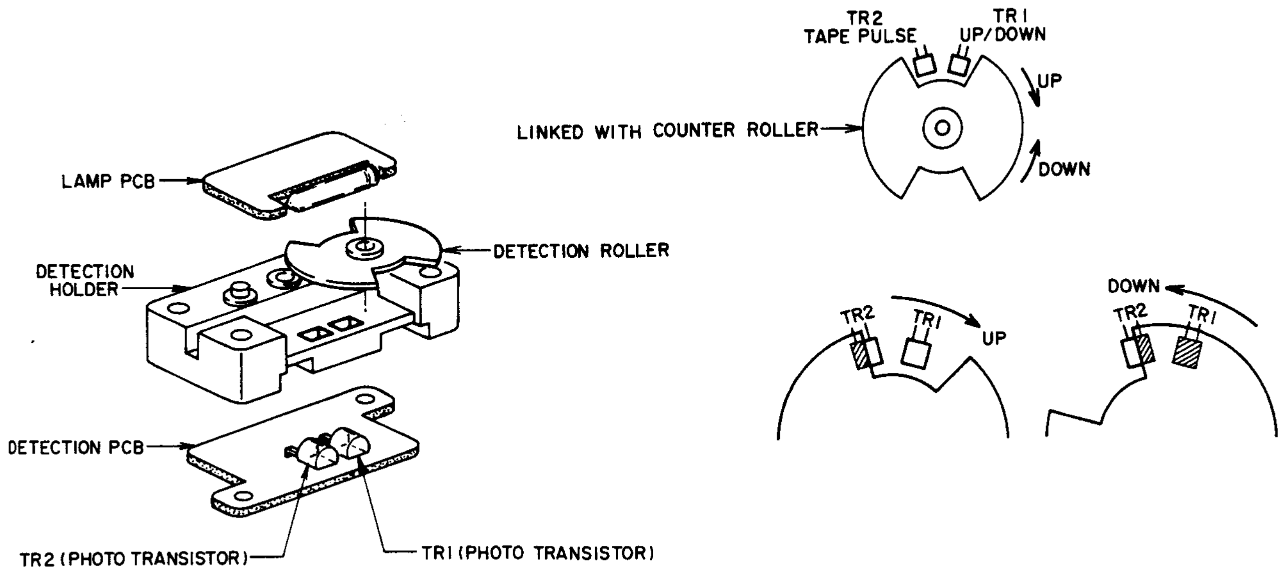

TR2
TAPE PULSE
TR1
UP/DOWN
UP
LINKED WITH COUNTER ROLLER
DOWN
LAMP PCB
DETECTION ROLLER
DETECTION HOLDER
DOWN
TR2
TR1
UP
TR2
TR1
DETECTION PCB
TR2 (PHOTO TRANSISTOR)
TR1 (PHOTO TRANSISTOR)

Fig. 25

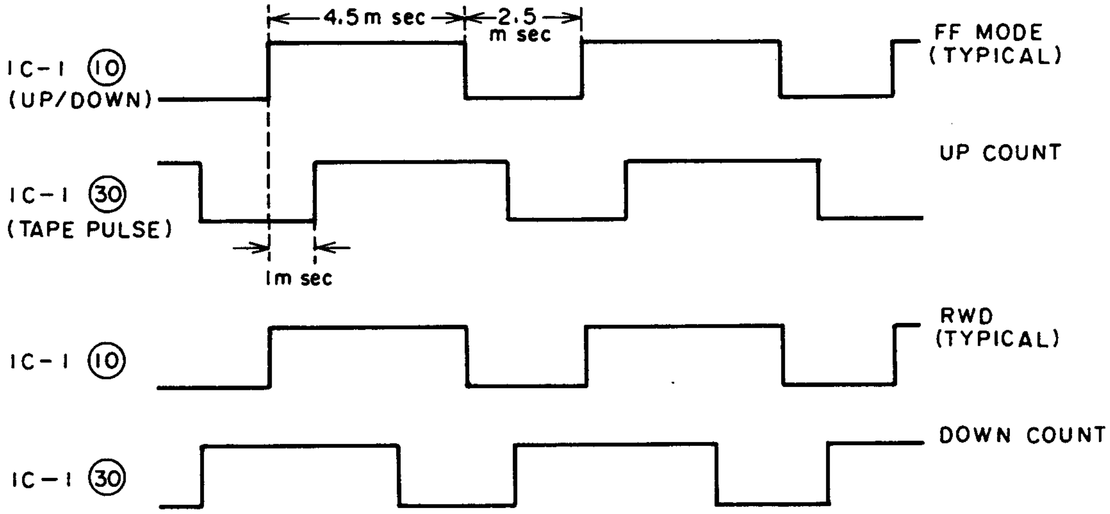

4.5 m sec
2.5 m sec
IC-1 ⑩
(UP/DOWN)
FF MODE
(TYPICAL)
UP COUNT
IC-1 ㉚
(TAPE PULSE)
1m sec
IC-1 ⑩
RWD
(TYPICAL)
DOWN COUNT
IC-1 ㉚

Fig. 26

3) COUNTER Operation (Refer to Figs. 25, 26)

The output of TR1 is inputted into IC1 D12 ⑩ after waveform shaping in the Schmitt Circuit of TR18 and TR19. The output of TR2 is inputted into IC1 ㉚ after waveform shaping in TR15 to TR17, and depending on the phase relation, it conducts UP or DOWN count. (For the waveform of TR15-17, see auto-stop circuit).

Input waveforms of IC1 ⑩, ㉚ (Counter Circuit)

4) Function Mode Indicator Indication Circuit

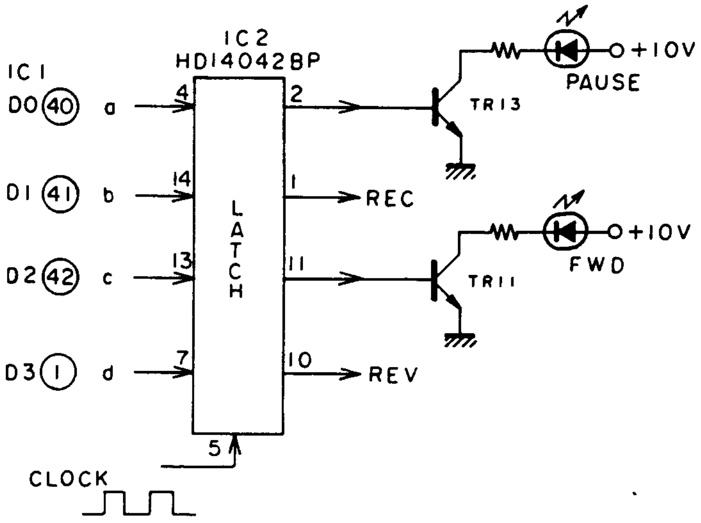
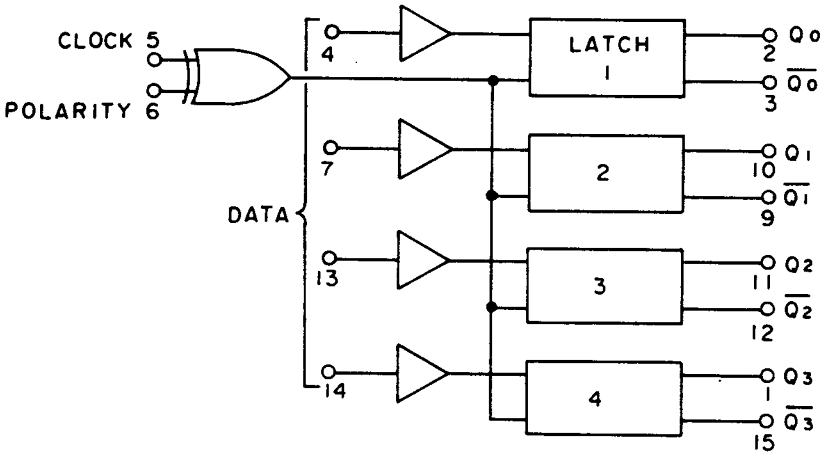

IC 2
HD14042BP
IC I
D0 (40) a
D1 (41) b
D2 (42) c
D3 (1) d
4
14
13
7
LATCH
2
1
11
10
REC
REV
5
CLOCK
TR13
TR11
+10V
PAUSE
+10V
FWD

Fig. 27

IC2 (HD14042BP) Quad Latch


CLOCK 5
POLARITY 6
DATA
4
7
13
14
LATCH 1
2
3
4
Q0 2
$\overline{Q0}$ 3
Q1 10
$\overline{Q1}$ 9
Q2 11
$\overline{Q2}$ 12
Q3 1
$\overline{Q3}$ 15

CLOCK	POLARITY	Q
L	L	DATA
↗	L	LATCH
H	H	DATA
↘	H	LATCH

} Use Only This Condition

Fig. 28

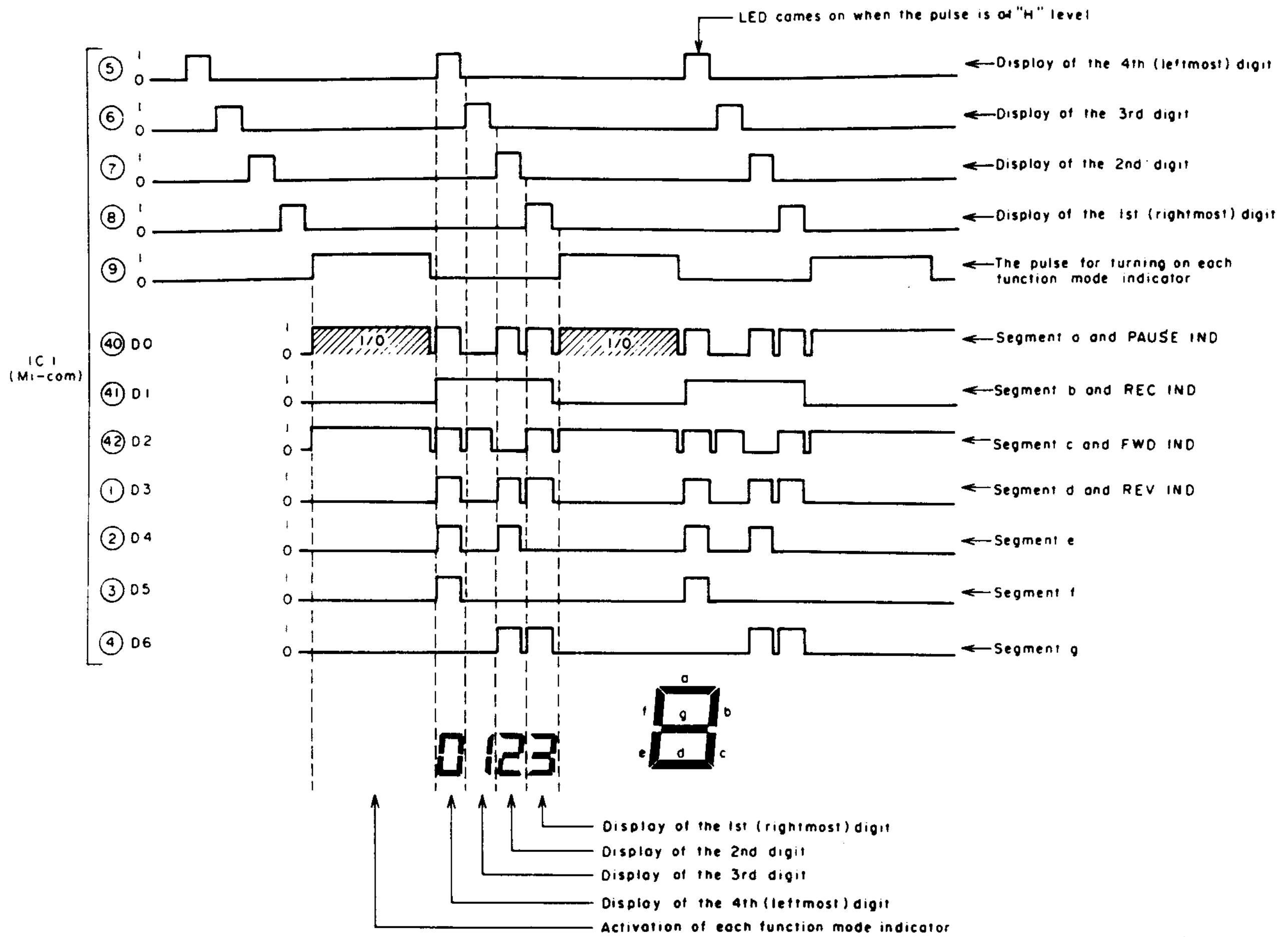

LED comes on when the pulse is at "H" level
⑤ 1 0
⑥ 1 0
⑦ 1 0
⑧ 1 0
⑨ 1 0
IC 1 (Mi-com)
㊵ D0
㊶ D1
㊷ D2
① D3
② D4
③ D5
④ D6
I/O
I/O
Display of the 4th (leftmost) digit
Display of the 3rd digit
Display of the 2nd digit
Display of the 1st (rightmost) digit
The pulse for turning on each function mode indicator
Segment a and PAUSE IND
Segment b and REC IND
Segment c and FWD IND
Segment d and REV IND
Segment e
Segment f
Segment g
0 123
a
b
c
d
e
f
g
Display of the 1st (rightmost) digit
Display of the 2nd digit
Display of the 3rd digit
Display of the 4th (leftmost) digit
Activation of each function mode indicator

Fig. 29

Also the function mode indicators are lighted up by the operation timing of the control signal from the microcomputer. Here, we take the example of FWD PLAY/PAUSE in Fig. 29. FWD PLAY shall be called simply as PLAY hereinafter. In PLAY/PAUSE mode, the function mode indicator, PAUSE is always lighted and PLAY is flashing. Firstly look at the longitudinal raw of the function mode indicators of D0 ~ D3 in Fig. 29.

You will see that PAUSE IND is "H" level, PLAY IND is "L/H" flashing and others are "L" level. (D0 ~ D3) and IC1 ⑨ signals are inputted into the latch circuits of ④, ⑦, ⑬, ⑭ and ⑤ of IC2 in Fig. 27.

The latch circuit is shown in Fig. 28, and in such case, since IC2 ⑥ polarity is always "H", data is always "H", data is outputted when the clock is "H", and when it is "L", the data latched and held is outputted.

Therefore, in FWD PLAY/PAUSE, when the clock signal of IC1 ⑨ is "H", the PAUSE indicator is "H" and FWD IND is "L/H" flashing, and "H" signal appears in IC2 ② in Fig. 27 to turn TR13 ON and flashes PAUSE IND, and in IC2 ⑪, "L/H" flashing signal appears to turn TR11 ON and OFF and flashes FWD IND.

VII. MECHANISM ADJUSTMENT

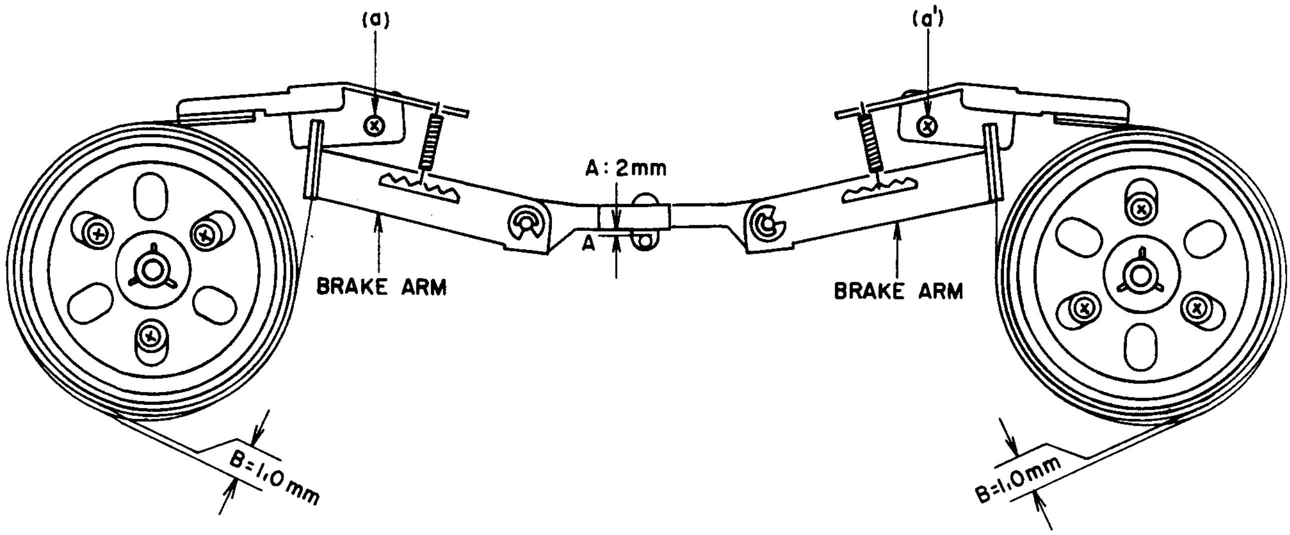

(a)
(a')
A: 2mm
A
BRAKE ARM
BRAKE ARM
B=1.0mm
B=1.0mm

Fig. 30

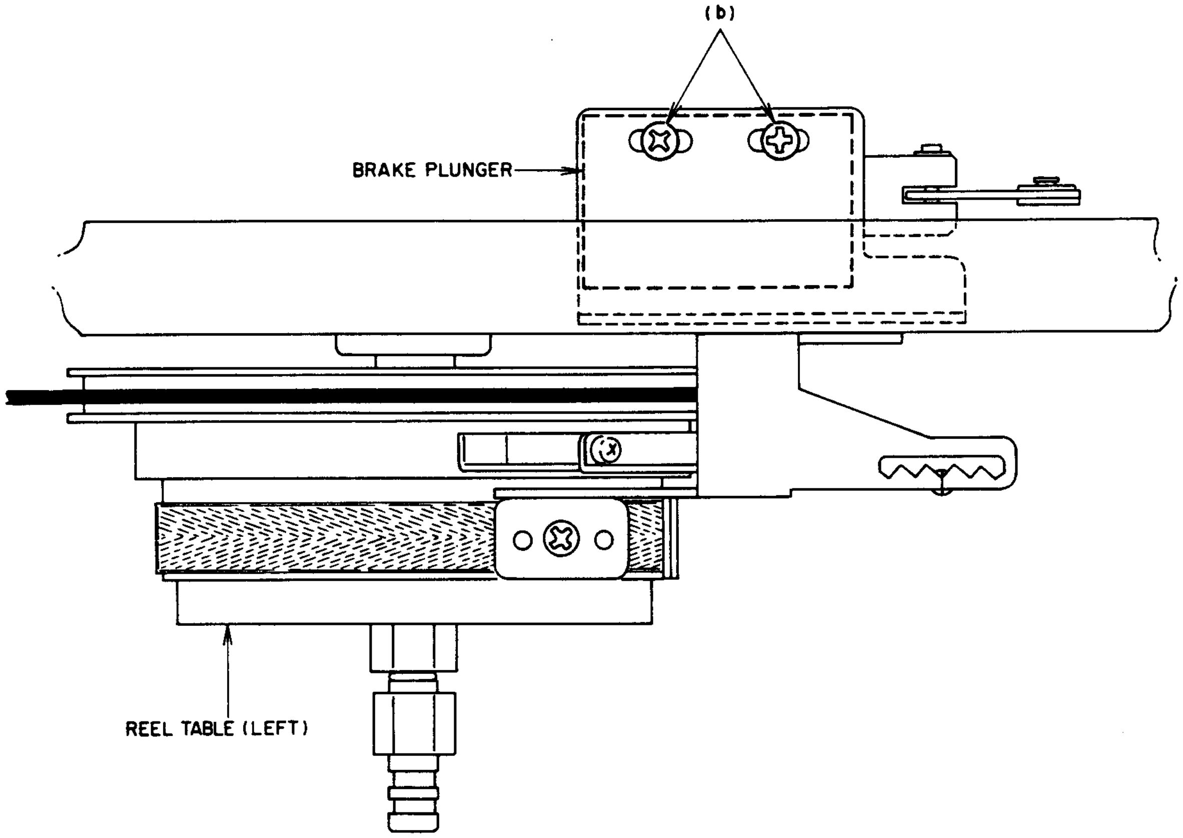

(b)
BRAKE PLUNGER
REEL TABLE (LEFT)

Fig. 31

1. BRAKE BAND POSITION ADJUSTMENT AND BRAKE TENSION ADJUSTMENT

(Refer to Figs. 30, 31, 32)

1) In STOP Position, make adjustment with the screws (a) and (a') so that the clearance (A) will be 2.0 mm.
2) By working the brake plunger with fingers and adjust the brake plunger position with the screw (b) so that the clearance (B) between the brake cloth and brake band will be about 1 mm.
3) Work the brake plunger to check that the brake band is not slanted.
4) In STOP Position, change and adjust the spring position so that the brake tension of 400 ± 30 g is obtained on both the brakes.
(Use a 500 g spring gauge for a reel with 60 mm diameter of tape).

2. PLAY PLUNGER POSITION ADJUSTMENT (Refer to Fig. 33)

With FWD PLAY mode, adjust the FWD plunger position with the screw (a) so that the clearance (A) of the slide play will be 0.1 ± 0.3 mm.
Also adjust the REV plunger position in the same way in REV mode.

3. PINCH ROLLER PRESSURE ADJUSTMENT

With FWD PLAY mode, connect a 1 kg spring gauge to the right pinch roller cap. Pull down the pinch roller and then let it slowly move back.
Check that the spring gauge reads 850 g ± 100 g at the moment the pinch roller touches the capstan and starts rolling.
If it reads otherwise, replace the P spring (See Fig. 33)
Also make the same adjustment about the left pinch roller in REV mode.

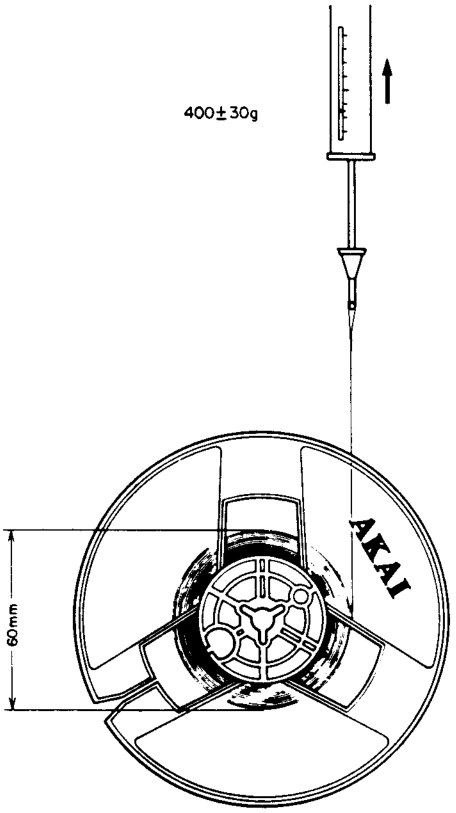

400±30g
60mm
AKAI

Fig. 32

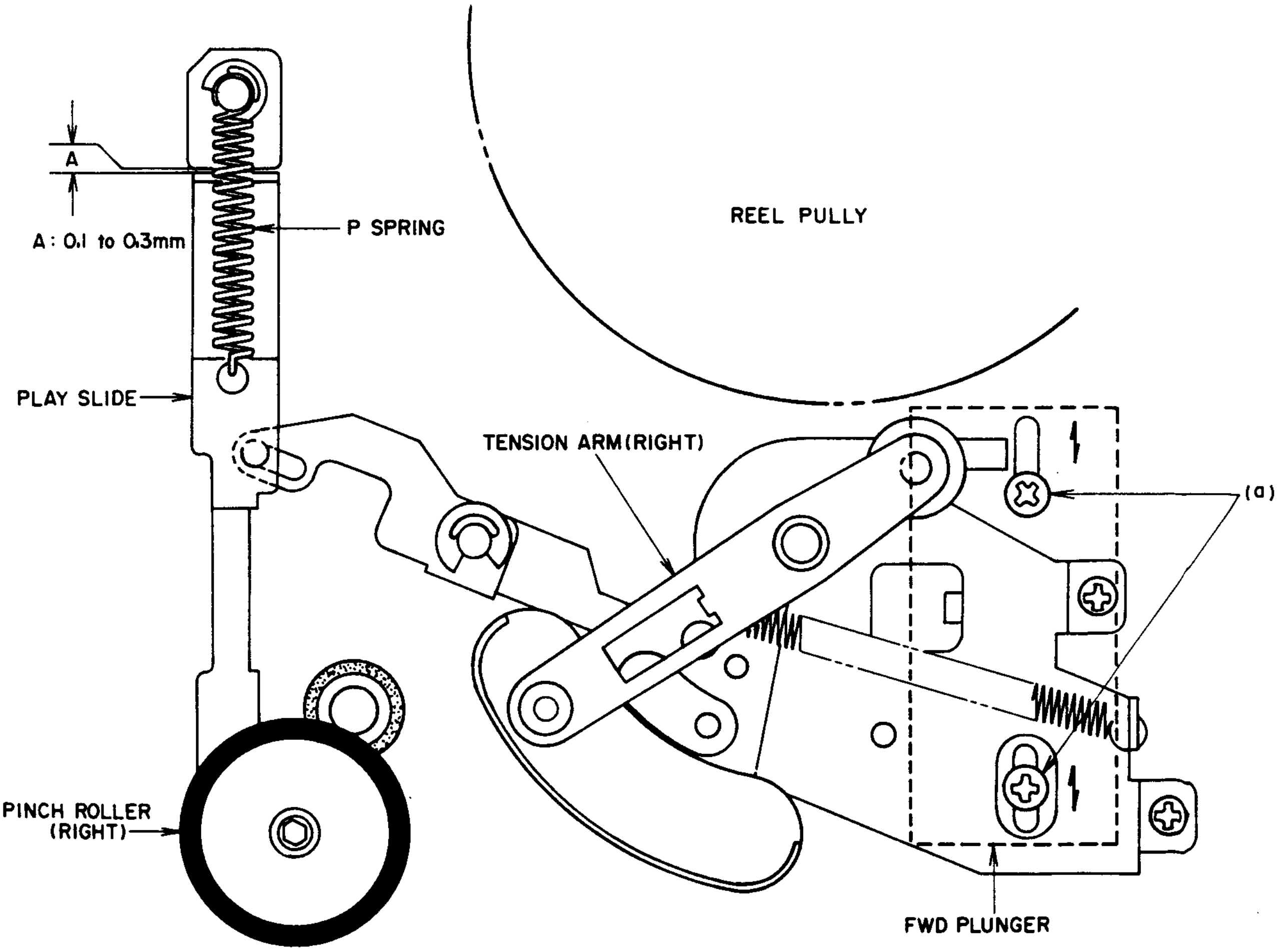

A
A : 0.1 to 0.3mm
P SPRING
REEL PULLY
PLAY SLIDE
TENSION ARM(RIGHT)
(a)
PINCH ROLLER (RIGHT)
FWD PLUNGER

Fig. 33

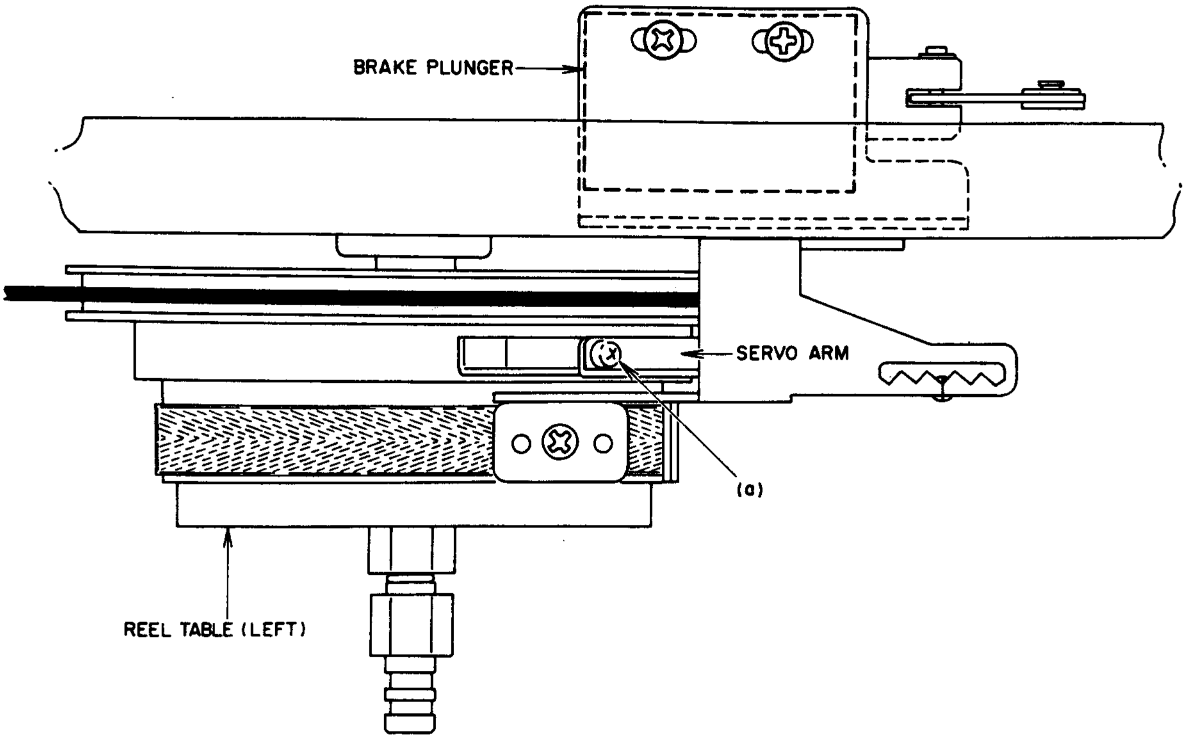

BRAKE PLUNGER
SERVO ARM
(a)
REEL TABLE (LEFT)

Fig. 34

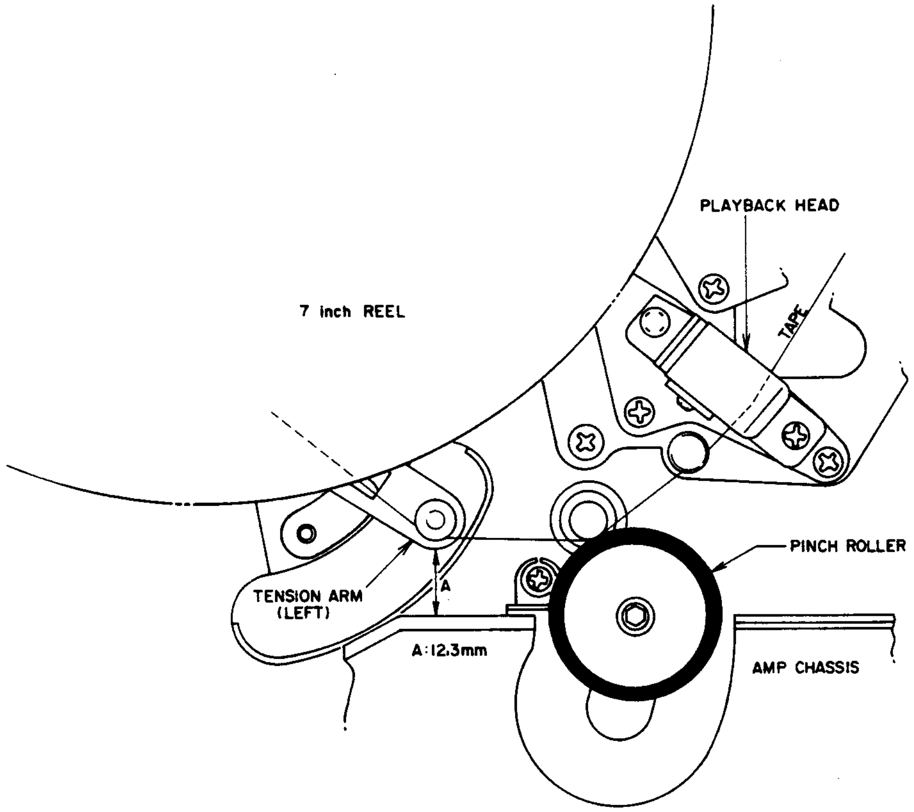

PLAYBACK HEAD
TAPE
7 inch REEL
PINCH ROLLER
TENSION ARM
(LEFT)
A
A:12.3mm
AMP CHASSIS

Fig. 35

4. TENSION SERVO ADJUSTMENT
(Refer to Figs. 34, 35)

With FWD PLAY near the center of the tape (where the tape lengths at right and left are equal), make adjustment with the screw (a) of the servo arm so that the distance (A) of 12.3 mm will be achieved between the lower part of the tension arm tape guide at the left side and the amplifier chassis. Also make the same adjustment about the right tension arm in REV mode.

NOTE: Use the tape Maxell UD35-90

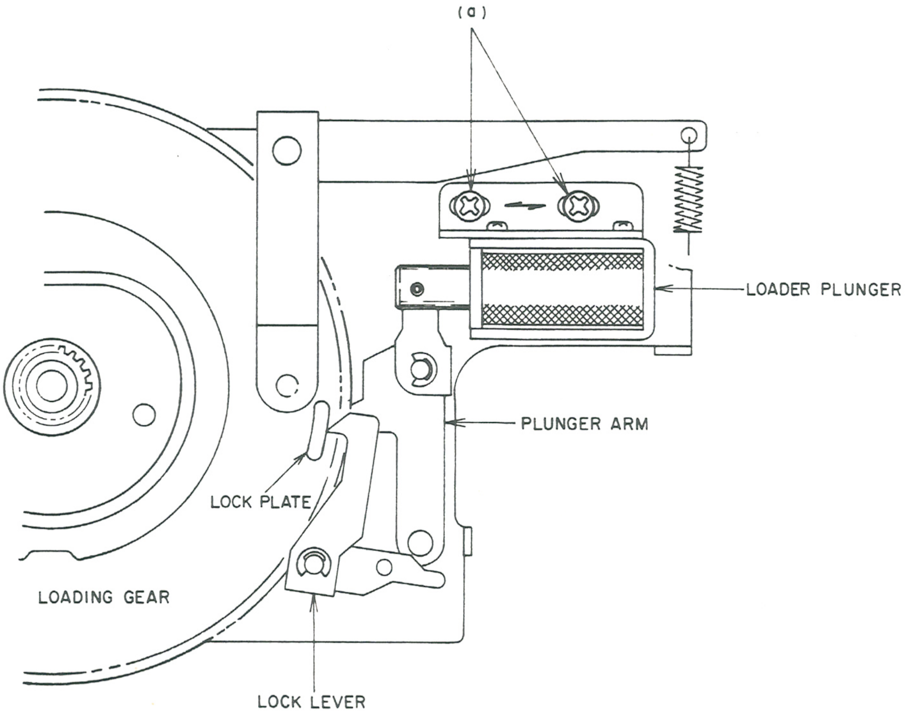

(a)
LOADER PLUNGER
PLUNGER ARM
LOCK PLATE
LOADING GEAR
LOCK LEVER

Fig. 36

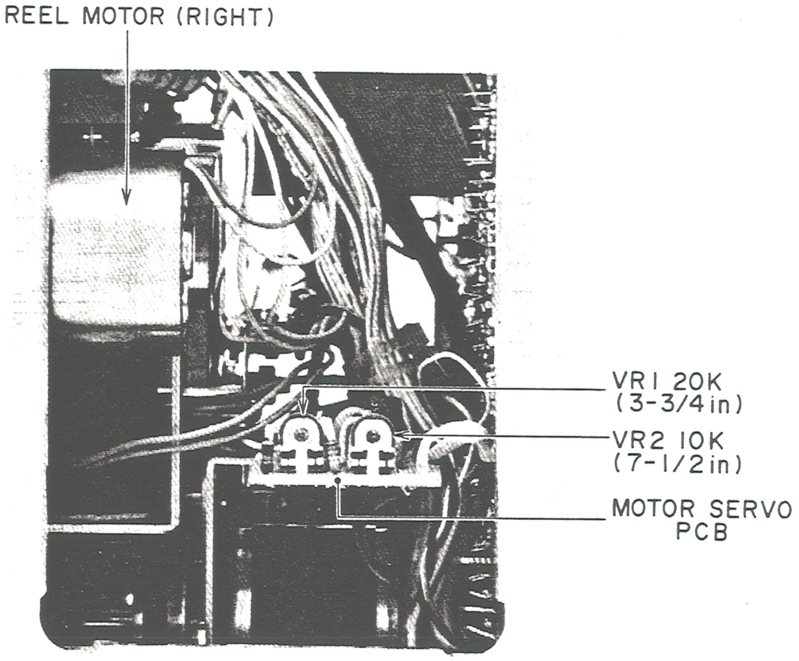

REEL MOTOR (RIGHT)
VR1 20K (3-3/4 in)
VR2 10K (7-1/2 in)
MOTOR SERVO PCB

Fig. 37

5. LOADER PLUNGER POSITION ADJUSTMENT (Refer to Fig. 36)

With the loading roller up (FWD/REV PLAY mode or with the loading roller up/down button up), adjust the position of the loader plunger with the screw (a) so that the lock lever is removed from the lock plate of loading gear and put on the lock plate.

6. TAPE SPEED ADJUSTMENT (Refer to Fig. 37)

Set the Tape Speed Switch to 7-1/2 ips. and playback the 1,000 Hz, 7-1/2 Test Tape. Connect a frequency counter to VR2 10 kB until the counter reads, 1,000 Hz ± 0.8%. Next, set the Tape Speed Switch to 3-3/4 ips. and adjust VR1 20 kB until the frequency counter reads 500 Hz ± 1.0%.

VIII. HEAD ADJUSTMENT

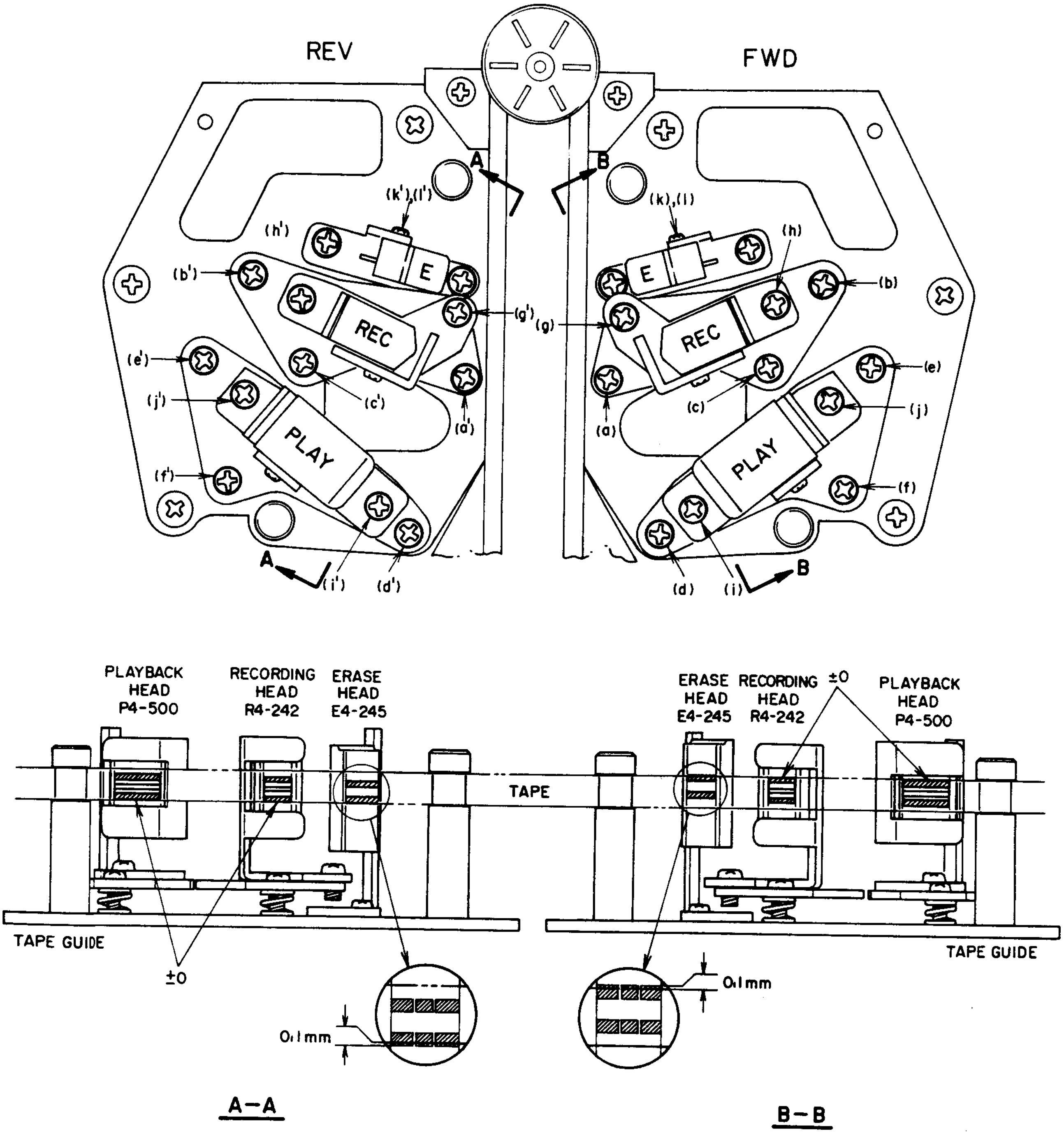

REV
FWD
A
B
(k'),(l')
(h')
(b')
(e')
(j')
(f')
E
REC
PLAY
(g')
(g)
(c')
(a')
(i')
(d')
(k),(l)
(h)
(b)
(e)
(j)
(f)
(c)
(a)
(d)
(i)
PLAYBACK HEAD P4-500
RECORDING HEAD R4-242
ERASE HEAD E4-245
TAPE
TAPE GUIDE
±0
0.1mm
ERASE HEAD E4-245
RECORDING HEAD R4-242
±0
PLAYBACK HEAD P4-500
TAPE GUIDE
0.1mm
A–A
B–B

Fig. 38

Step	Adjustment Item	Test Tape Supply Signal	Mode	Adjustment Point	Remarks
1	Erase Head Height	Optional	FWD	(k) (l)	Upper edge of Left Ch. head core is 0.1 mm higher than upper edge of tape.
2	Recording Head Height	Optional	FWD	(a) (b) (c)	Upper edges of Left Ch. head core and tape are the same height. See NOTE 6.
3	Playback Head Height	Optional	FWD	(d) (e) (f)	Upper edges of Left Ch. head core and tape are the same height. See NOTE 6.
4	Playback Head Azimuth Alignment	8,000 Hz 3-3/4 ips Test Tape	FWD	(f)	Maximum output, both channels.
5	Playback Head Angle Alignment	8,000 Hz 3-3/4 ips Test Tape	FWD	(i) (j)	Adjust head gap surface so that there is no change in output level when tension is applied to the supply reel side.
6	Recording Head Azimuth Alignment	Maxell UD Tape 15,000 Hz −20 dBm	REC	(c)	Maximum output, both channels. See NOTE 7.
7	Recording Head Angle Alignment	Maxell UD Tape 15,000 Hz −20 dBm	REC	(g) (h)	Adjust head gap surface so that there is no change in output level when tension is applied to the supply reel side. See NOTE 7.

Fig. 39

NOTES:

1. As perfect head adjustments are vital to tape deck performance, be sure that these adjustments are carried out properly.
2. Be careful not to use a magnetized driver or other magnetized tools in the vicinity of the heads.
3. Use only new tape as level variation is likely to occur when using old tape.
4. Demagnetize heads with head demagnetizer before and after head adjustment.
5. Set tape speed to 7-1/2 ips.
6. Simultaneously adjust the front and back tilts of head until uniform contact is ensured between the tape and the surface of head.
7. Set Tape Selector Switch to NORMAL Position.
8. Adjustments outlined in Fig. 39 are only for FWD side heads. However, adjustments for REV side heads are exactly the same.

IX. AMPLIFIER ADJUSTMENT

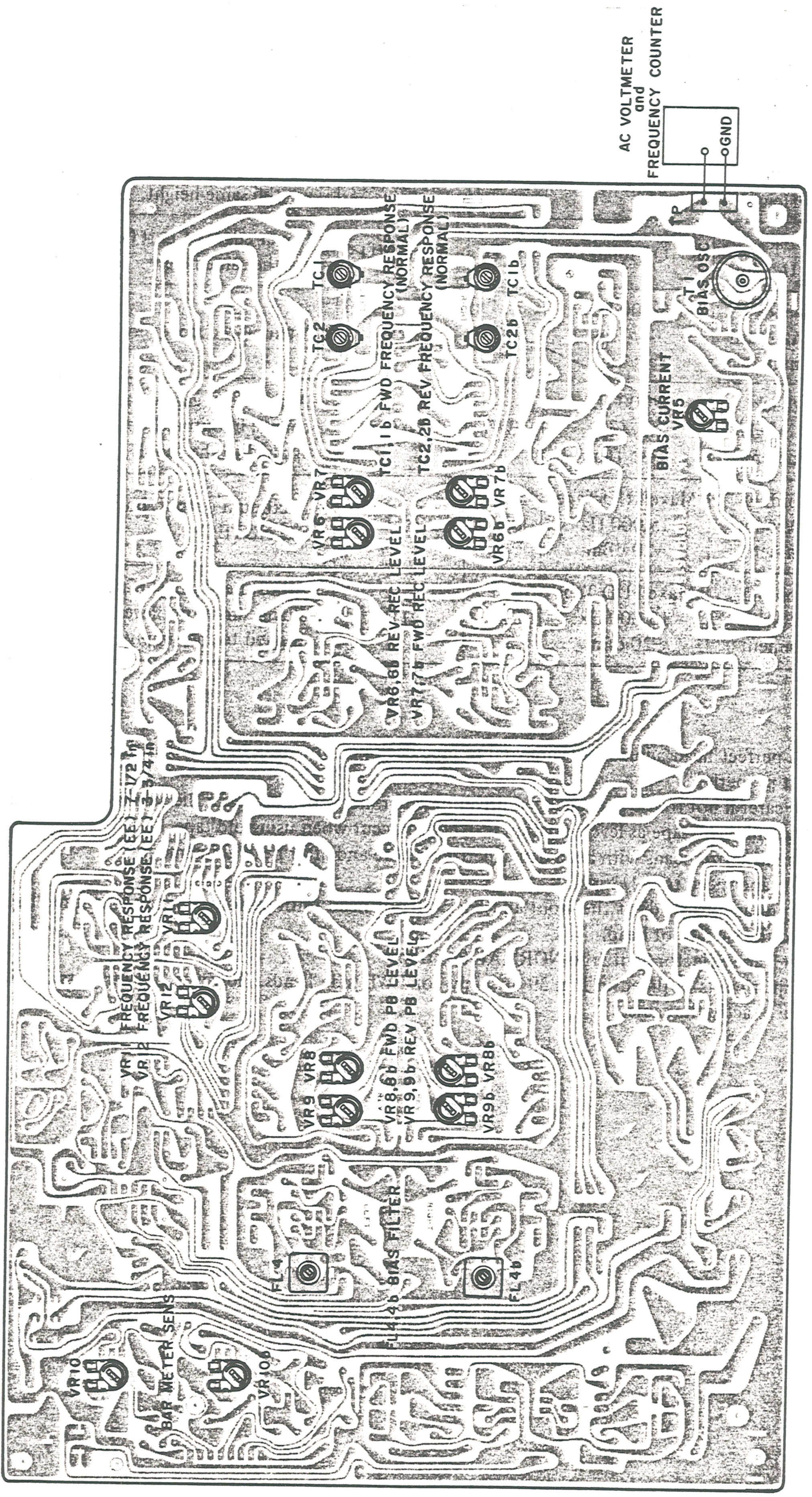

AC VOLTMETER and FREQUENCY COUNTER
GND
P
TC1
TC2
TC1b
TC2b
TC1,1b FWD FREQUENCY RESPONSE (NORMAL)
TC2,2b REV FREQUENCY RESPONSE (NORMAL)
T1 BIAS OSC
BIAS CURRENT VR5
VR6 VR7
VR6b VR7b
VR6,6b REV REC LEVEL
VR7,7b FWD REC LEVEL
VR11 FREQUENCY RESPONSE (EE) 7-1/2 in
VR12 FREQUENCY RESPONSE (EE) 3-3/4 in
VR11
VR12
VR9 VR8
VR8,8b FWD PB LEVEL
VR9,9b REV PB LEVEL
VR9b VR8b
FL4
FL4b
FL4,4b BIAS FILTER
VR10
VR10b
BAR METER SENS

Fig. 40 Pre Amp P.C Board T1010A515A

Step	Adjustment Item	Test Tape Supply Signal	Mode	Adjustment Point	Result	Remarks
1	FWD Playback level	700 Hz 7-1/2 ips 0 VU Test Tape	FWD	VR8 50K	0 ± 0.5 dBm (0.775V)	
2	REV Playback level	700 Hz 7-1/2 ips 0 VU Test Tape	REV	VR9 50K	0 ± 0.5 dBm (0.775V)	
3	Bias OSC		REC	T1	100 ± 2 kHz	Set TAPE SELECTOR to "EE". Tape Speed 7-1/2 ips. Connect a Frequency Counter between TP and GND. Fig. 40.
4	Bias Current		REC	VR5 10K	115 mV	Set TAPE SELECTOR to "NORMAL". Tape Speed 3-3/4 ips. Connect a AC voltmeter between TP and GND. Fig. 40.
5	FWD Recording level	NORMAL Blank Tape 1,000 Hz 0 dBm Recording	FWD/ REC	VR7 20K	0 ± 0.5 dBm (0.775V)	
6	REV Recording level	NORMAL Blank Tape 1,000 Hz 0 dBm Recording	REV/ REC	VR6 20K	0 ± 0.5 dBm (0.775V)	
7	NORMAL Position FWD Frequency Response	NORMAL Blank Tape 1.5 kHz, 15 kHz −20 dBm Recording	FWD/ REC	TC1	1.5 kHz, 15 kHz flat	Tape Speed 3-3/4 ips. Recheck Recording level.
8	NORMAL Position REV Frequency Response	NORMAL Blank Tape 1.5 kHz, 15 kHz −20 dBm Recording	REV/ REC	TC2	1.5 kHz, 15 kHz flat	Tape Speed 3-3/4 ips. Recheck Recording level.
9	EE Position Frequency Response (3-3/4 ips)	EE Blank Tape 2.0 kHz, 20 kHz −20 dBm Recording	FWD, REV/ REC	VR12 20K	2.0 kHz, 20 kHz, flat	Tape Speed 3-3/4 ips. Recheck Recording level.
10	EE Position Frequency Response (7-1/2 ips)	EE Blank Tape 2.0 kHz, 20 kHz −20 dBm Recording	FWD, REV/ REC	VR11 5K	2.0 kHz, 20 kHz flat	Tape Speed 7-1/2 ips. Recheck Recording level.
11	FWD Distortion Confirmation	1,000 Hz 0 dBm Recording	FWD/ REC		NORMAL : Less than 0.5% EE : Less than 0.5% See NOTE 6.	
12	REV Distortion Confirmation	1,000 Hz 0 dBm Recording	REV/ REC		NORMAL : Less than 0.5% EE : Less than 0.5% See NOTE 6.	
13	Bar Meter Sensitivity	1,000 Hz 0 dBm from an oscillator	STOP	VR10 10K	0 VU indication	Set MONITOR Switch to "SOURCE". See NOTE 7.

Step	Adjustment Item	Test Tape Supply Signal	Mode	Adjustment Point	Result	Remarks
14	Bias Filter		REC	FL4	Less than −30 dBm	Set TAPE SELECTOR to "EE". Tape Speed 7-1/2 ips. Line Volume at MAX. See NOTE 8.

Fig. 41

NOTES:
1. Output Level Control should be at maximum.
2. Except for Steps 7, 8 and 9, set Tape Speed to 7-1/2 ips.
3. Except for Steps 3, 9 to 12 and 14, set Tape Selector Switch to NORMAL Position.
4. Set Bias Adjustment Volume to center position.
5. Use the following open measuring tapes:

   NORMAL Tape: Maxell UD
   EE Tape : Maxell XLII
   TDK SA
6. If it does not comply with the specifications, repeat Steps 5 to 9 and 10, and re-adjust.
7. Light the bar meter in the ascending order with VR10 and set VR10 in position immediately when 0 dB is lit.
8. Unless the core is moved intentionally this adjustment is not necessary.

X. DC RESISTANCE OF VARIOUS COILS

Part	Designation	DC Resistance
Forward Plunger Reverse Plunger	1664TLTI	100 ohms ± 10%
Brake Plunger	1240PLTI	120 ohms ± 10%
Loader Plunger	0730TLTI	120 ohms ± 10%
Relay	G2U	400 ohms ± 10%
Relay	L24 (M)	1600 ohms ± 10%
Erase Head	E4-245	3.1 ohms
Recording Head	R4-242	5.9 ohms
Playback Head	P4-500	407 ohms ± 5%

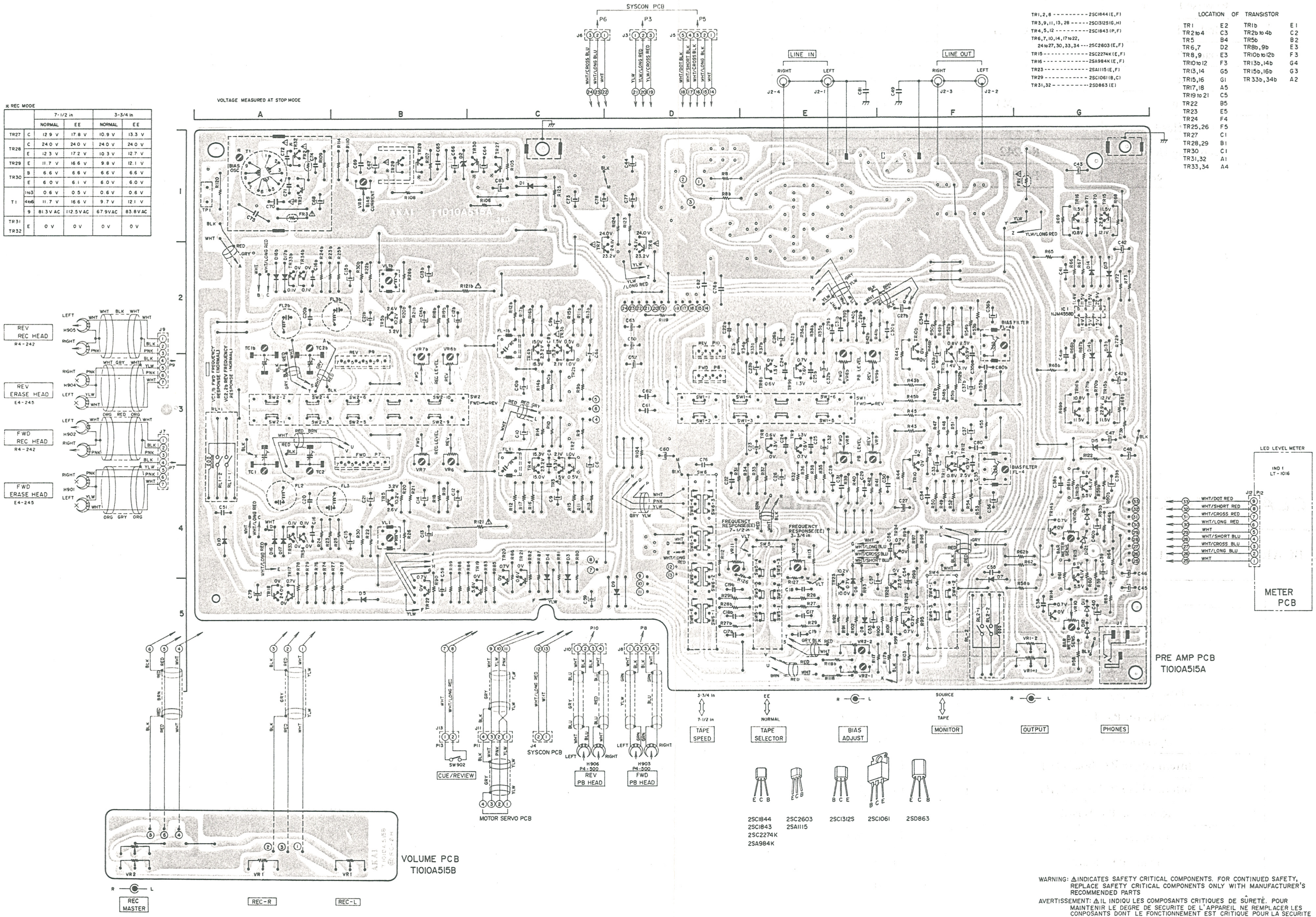
XI. CLASSIFICATION OF VARIOUS P.C BOARDS

1. P.C BOARD TITLES AND IDENTIFICATION NUMBERS

P.C Board Title	P.C Board Number
Pre Amp P.C Board	T1010A515A
Volume P.C Board	T1010A515B
Syscon P.C Board	T1010B5250
Power Supply P.C Board	T1010B5260
Selector P.C Board	T1010C5160
Operation P.C Board	T1010C5170
Intermediate P.C Board (L)	T1010D520A
Intermediate P.C Board (R)	T1010D520B
Remocon P.C Board	T1010D5210
Counter P.C Board	T1010D5220
Lamp P.C Board	T1010D5230
Detector P.C Board	T1010D5240

2. COMPOSITION OF VARIOUS P.C BOARDS

1) PRE AMP P.C BOARD T1010A515A (2ED) and VOLUME P.C BOARD T1010A515B


SYSCON PCB
P6
P3
P5
J6
J3
J5
LINE IN
LINE OUT
RIGHT
LEFT
J2-4
J2-1
J2-3
J2-2
VOLTAGE MEASURED AT STOP MODE
A
B
C
D
E
F
G
1
2
3
4
5
REV REC HEAD R4-242
REV ERASE HEAD E4-245
FWD REC HEAD R4-242
FWD ERASE HEAD E4-245
H905
H904
H902
H901
J9
P9
J7
P7
BIAS OSC
BIAS FILTER
AKAI T1010A515A
PRE AMP PCB T1010A515A
LED LEVEL METER
IND 1 LT-1016
J12
P12
WHT/DOT RED
WHT/SHORT RED
WHT/CROSS RED
WHT/LONG RED
WHT
WHT/SHORT BLU
WHT/CROSS BLU
WHT/LONG BLU
WHT
METER PCB
J13
P13
SW902
CUE/REVIEW
J11
P11
MOTOR SERVO PCB
J4
SYSCON PCB
J10
P10
J8
P8
H906 P4-500
REV PB HEAD
H903 P4-500
FWD PB HEAD
3-3/4 in
7-1/2 in
TAPE SPEED
EE
NORMAL
TAPE SELECTOR
R L
BIAS ADJUST
SOURCE
TAPE
MONITOR
OUTPUT
PHONES
E C B
B C E
2SC1844
2SC1843
2SC2274K
2SA984K
2SC2603
2SA1115
2SC1312S
2SC1061
2SD863
VOLUME PCB T1010A515B
VR2
VR1
REC MASTER
REC-R
REC-L

※ REC MODE

		7-1/2 in		3-3/4 in	
		NORMAL	EE	NORMAL	EE
TR27	C	12.9 V	17.8 V	10.9 V	13.3 V
TR28	C	24.0 V	24.0 V	24.0 V	24.0 V
	E	12.3 V	17.2 V	10.3 V	12.7 V
TR29	E	11.7 V	16.6 V	9.8 V	12.1 V
TR30	B	6.6 V	6.6 V	6.6 V	6.6 V
	E	6.0 V	6.1 V	6.0 V	6.0 V
T1	1 to 3	0.6 V	0.5 V	0.6 V	0.6 V
	4 to 6	11.7 V	16.6 V	9.7 V	12.1 V
	9	81.3 V AC	112.5 V AC	67.9 V AC	83.8 V AC
TR31 TR32	E	0 V	0 V	0 V	0 V

TR1, 2, 8 ---------- 2SC1844 (E, F)
TR3, 9, 11, 13, 28 ----- 2SC1312S (G, H)
TR4, 5, 12 ---------- 2SC1843 (P, F)
TR6, 7, 10, 14, 17 to 22,
24 to 27, 30, 33, 34 --- 2SC2603 (E, F)
TR15 ------------- 2SC2274K (E, F)
TR16 ------------- 2SA984K (E, F)
TR23 ------------- 2SA1115 (E, F)
TR29 ------------- 2SC1061 (B, C)
TR31, 32 ---------- 2SD863 (E)

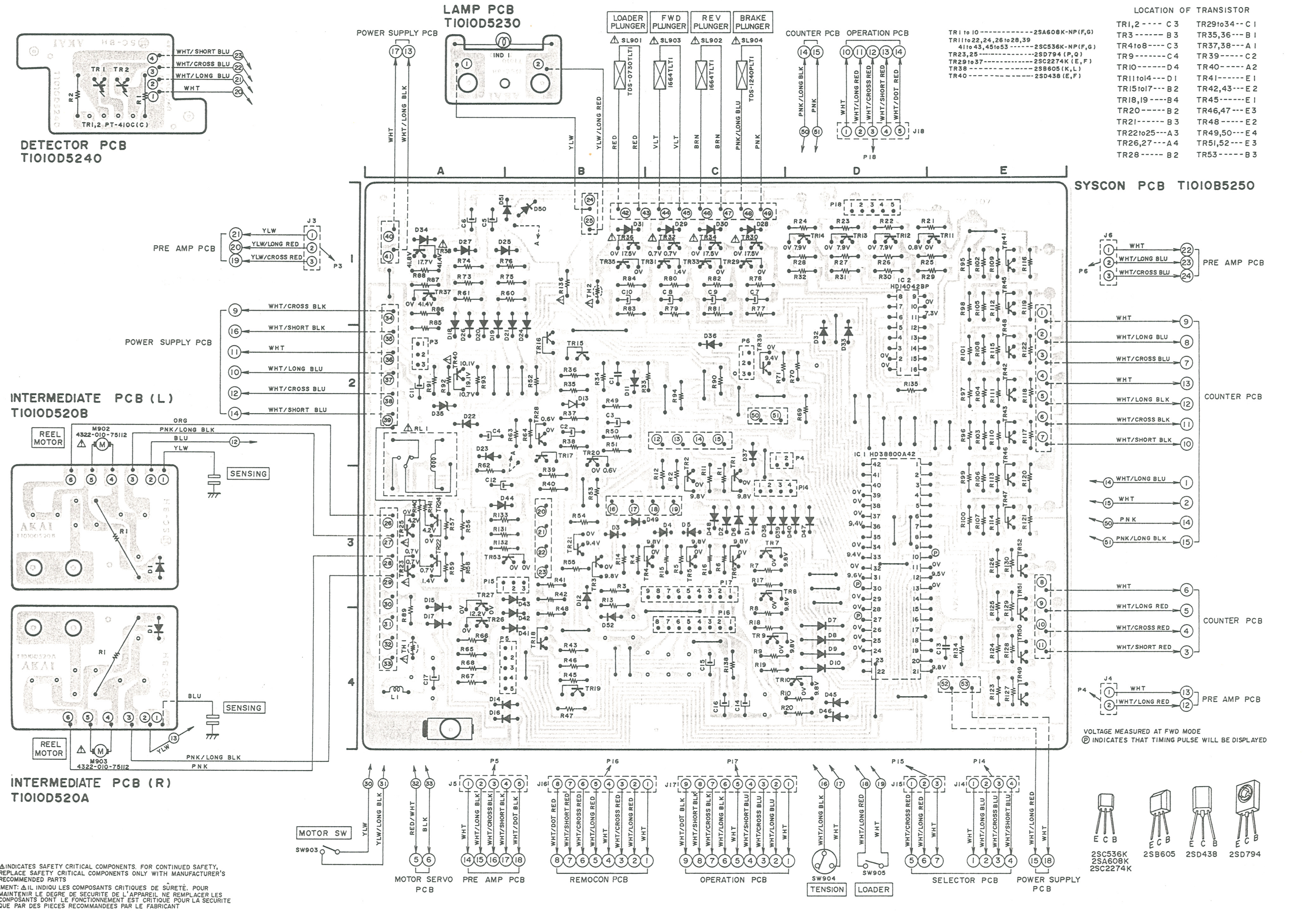
LOCATION OF TRANSISTOR

TR1	E2	TR1b	E1
TR2 to 4	C3	TR2b to 4b	C2
TR5	B4	TR5b	B2
TR6, 7	D2	TR8b, 9b	E3
TR8, 9	E3	TR10b to 12b	F3
TR10 to 12	F3	TR13b, 14b	G4
TR13, 14	G5	TR15b, 16b	G3
TR15, 16	G1	TR 33b, 34b	A2
TR17, 18	A5		
TR19 to 21	C5		
TR22	B5		
TR23	E5		
TR24	F4		
TR25, 26	F5		
TR27	C1		
TR28, 29	B1		
TR30	C1		
TR31, 32	A1		
TR33, 34	A4		

WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠ IL INDIQU LES COMPOSANTS CRITIQUES DE SÛRETÉ. POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL NE REMPLACER LES CONPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT

2) SYSCON P.C BOARD T1010B5250 (3ED), INTERMEDIATE P.C BOARD T1010D520A, T1010D520B, LAMP P.C BOARD T1010D5230 and DETECTOR P.C BOARD T1010D5240


DETECTOR PCB
T1010D5240
TR1,2 PT-410C(C)
WHT/SHORT BLU
WHT/CROSS BLU
WHT/LONG BLU
WHT
LAMP PCB
T1010D5230
IND 1
POWER SUPPLY PCB
LOADER PLUNGER
FWD PLUNGER
REV PLUNGER
BRAKE PLUNGER
SL901
SL903
SL902
SL904
TDS-0730TLT1
1664TLT1
1664TLT1
TDS-1240PLT1
COUNTER PCB
OPERATION PCB
J18
P18
SYSCON PCB T1010B5250
PRE AMP PCB
INTERMEDIATE PCB (L)
T1010D520B
REEL MOTOR
M902
4322-010-75112
SENSING
INTERMEDIATE PCB (R)
T1010D520A
M903
4322-010-75112
IC1 HD38800A42
IC2 HD14042BP
RL1
MOTOR SW
SW903
MOTOR SERVO PCB
PRE AMP PCB
REMOCON PCB
OPERATION PCB
SW904
TENSION
SW905
LOADER
SELECTOR PCB
POWER SUPPLY PCB
A
B
C
D
E
1
2
3
4
E C B
2SC536K
2SA608K
2SC2274K
E C B
2SB605
E C B
2SD438
E C B
2SD794

TR1 to 10 ------------ 2SA608K-NP(F,G)
TR11to22,24,26to28,39
41to43,45to53 ------ 2SC536K-NP(F,G)
TR23,25 -------------- 2SD794 (P,Q)
TR29to37 ------------ 2SC2274K (E,F)
TR38 ------------------ 2SB605 (K,L)
TR40 ------------------ 2SD438 (E,F)

LOCATION OF TRANSISTOR

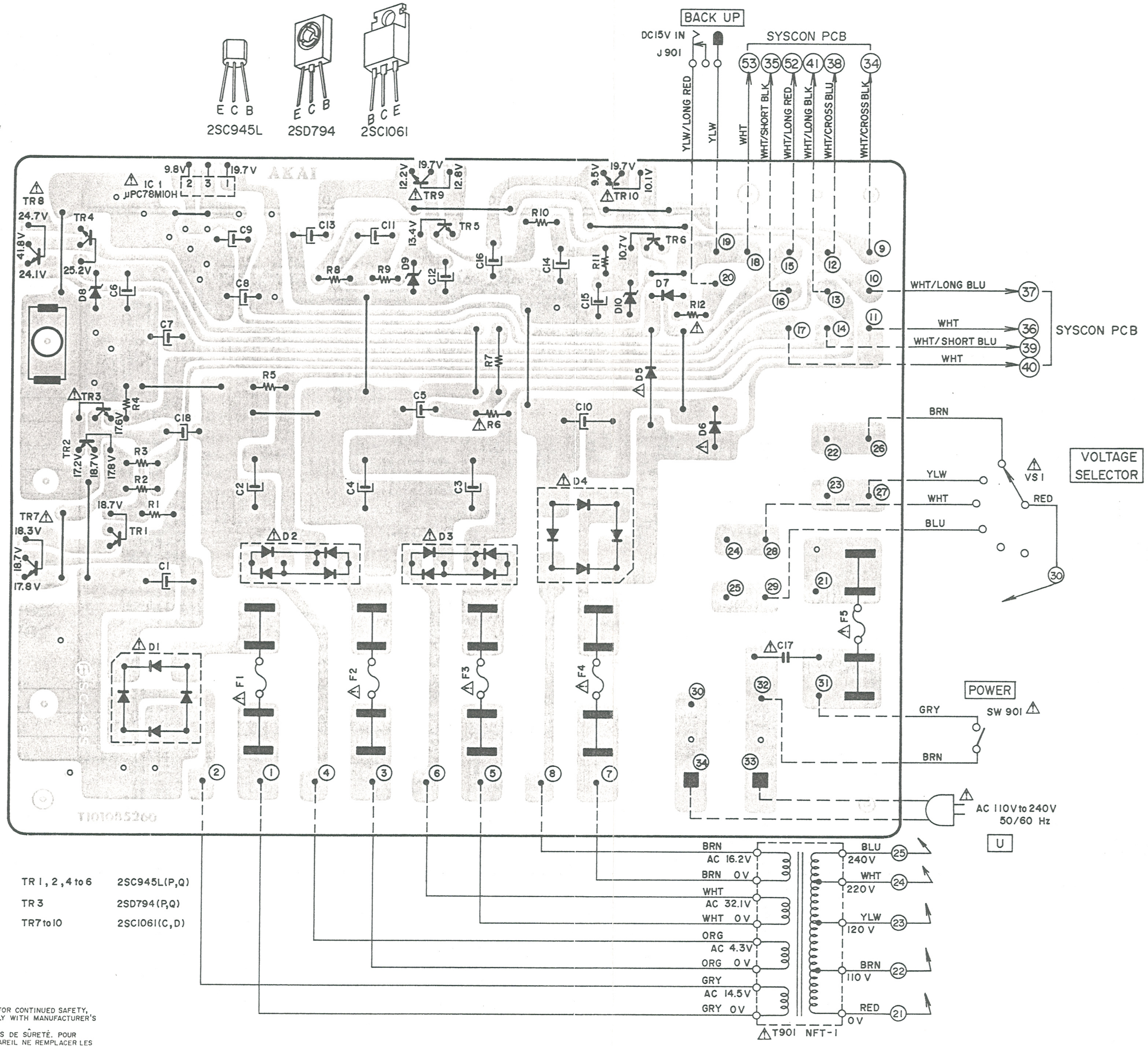
TR1,2 ---- C3	TR29to34 -- C1
TR3 ------ B3	TR35,36 --- B1
TR4to8 ---- C3	TR37,38 --- A1
TR9 ------- C4	TR39 ----- C2
TR10 ------ D4	TR40 ----- A2
TR11to14 --- D1	TR41 ------ E1
TR15to17 --- B2	TR42,43 --- E2
TR18,19 ---- B4	TR45 ------ E1
TR20 ----- B2	TR46,47 --- E3
TR21 ------ B3	TR48 ----- E2
TR22to25 --- A3	TR49,50 --- E4
TR26,27 --- A4	TR51,52 --- E3
TR28 ----- B2	TR53 ----- B3

VOLTAGE MEASURED AT FWD MODE
Ⓟ INDICATES THAT TIMING PULSE WILL BE DISPLAYED

WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠IL INDIQU LES COMPOSANTS CRITIQUES DE SÛRETÈ. POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL NE REMPLACER LES CONPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT

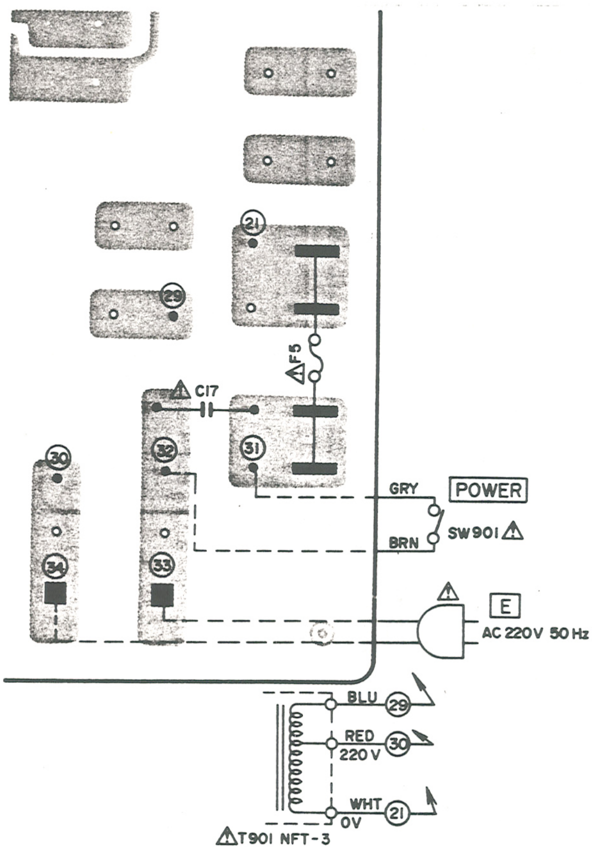
3) POWER SUPPLY P.C BOARD T1010B5260


E C B
2SC945L
E C B
2SD794
B C E
2SC1061
BACK UP
DC15V IN
J901
SYSCON PCB
YLW/LONG RED
YLW
WHT
WHT/SHORT BLK
WHT/LONG RED
WHT/LONG BLK
WHT/CROSS BLU
WHT/CROSS BLK
AKAI
IC 1 μPC78M10H
9.8V
19.7V
TR8
24.7V
41.8V
24.1V
TR4
25.2V
TR9
12.2V
12.8V
TR10
9.5V
10.1V
TR5
13.4V
TR6
10.7V
TR3
17.6V
TR2
17.2V
18.7V
17.8V
TR7
18.3V
TR1
C1
C2
C3
C4
C5
C6
C7
C8
C9
C10
C11
C12
C13
C14
C15
C16
C17
C18
R1
R2
R3
R4
R5
R6
R7
R8
R9
R10
R11
R12
D1
D2
D3
D4
D5
D6
D7
D8
D9
D10
F1
F2
F3
F4
F5
WHT/LONG BLU
WHT
WHT/SHORT BLU
WHT
SYSCON PCB
BRN
YLW
WHT
BLU
RED
VS1
VOLTAGE SELECTOR
POWER
GRY
SW 901
BRN
AC 110V to 240V
50/60 Hz
U
T1010B5260
BRN
AC 16.2V
BRN 0V
WHT
AC 32.1V
WHT 0V
ORG
AC 4.3V
ORG 0V
GRY
AC 14.5V
GRY 0V
BLU
240V
WHT
220V
YLW
120 V
BRN
110 V
RED
0V
T901 NFT-1

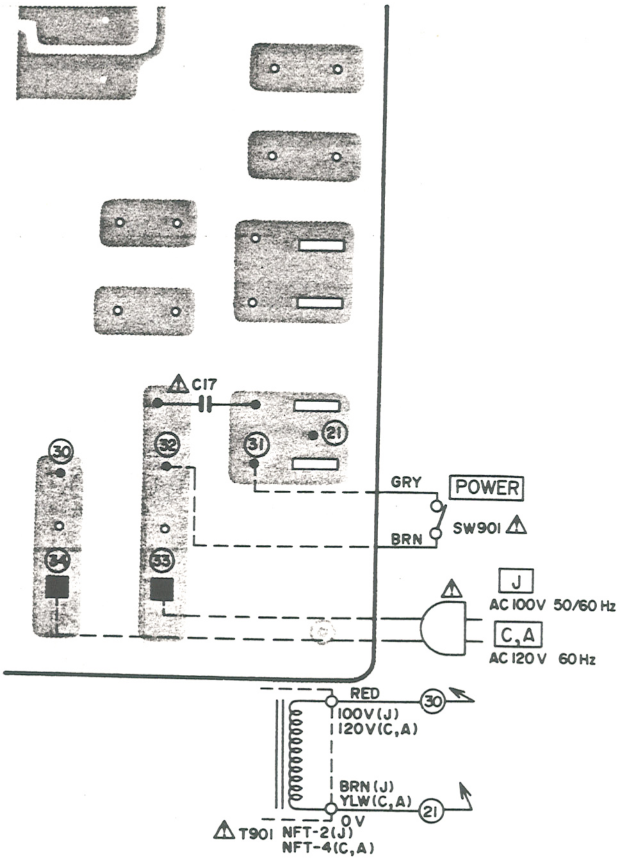
TR1, 2, 4 to 6	2SC945L(P,Q)
TR3	2SD794(P,Q)
TR7 to 10	2SC1061(C,D)

WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

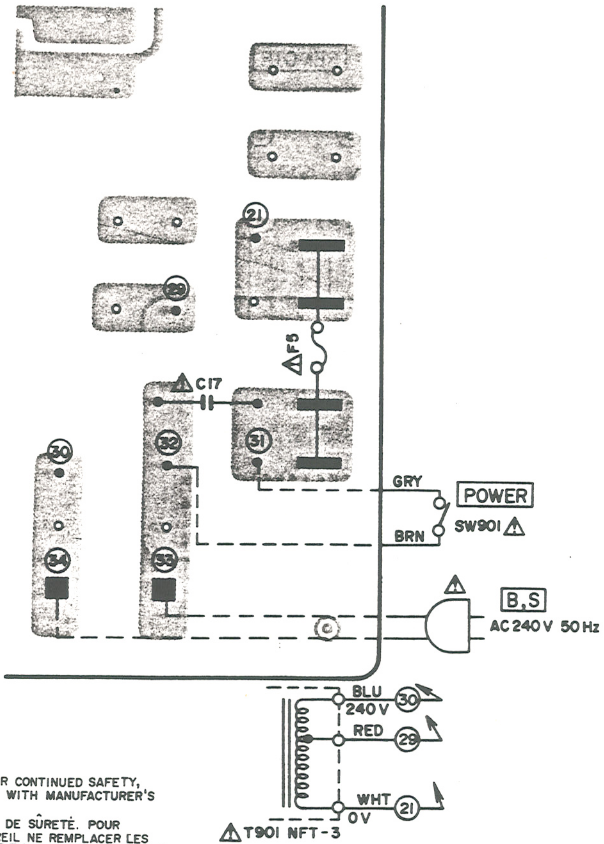
AVERTISSEMENT: ⚠IL INDIQU LES COMPOSANTS CRITIQUES DE SÛRETÉ. POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL NE REMPLACER LES CONPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT



㉑
㉙
⚠F5
⚠C17
㉛
㉜
㉚
㉞
㉝
GRY
POWER
BRN
SW901 ⚠
⚠
E
AC 220V 50 Hz
BLU ㉙
RED ㉚
220 V
WHT ㉑
0V
⚠T901 NFT-3



⚠C17
㉛
㉑
㉜
㉚
㉞
㉝
GRY
POWER
BRN
SW901 ⚠
⚠
J
AC 100V 50/60 Hz
C,A
AC 120V 60 Hz
RED ㉚
100V(J)
120V(C,A)
BRN (J)
YLW(C,A) ㉑
0V
⚠T901 NFT-2(J)
NFT-4(C,A)

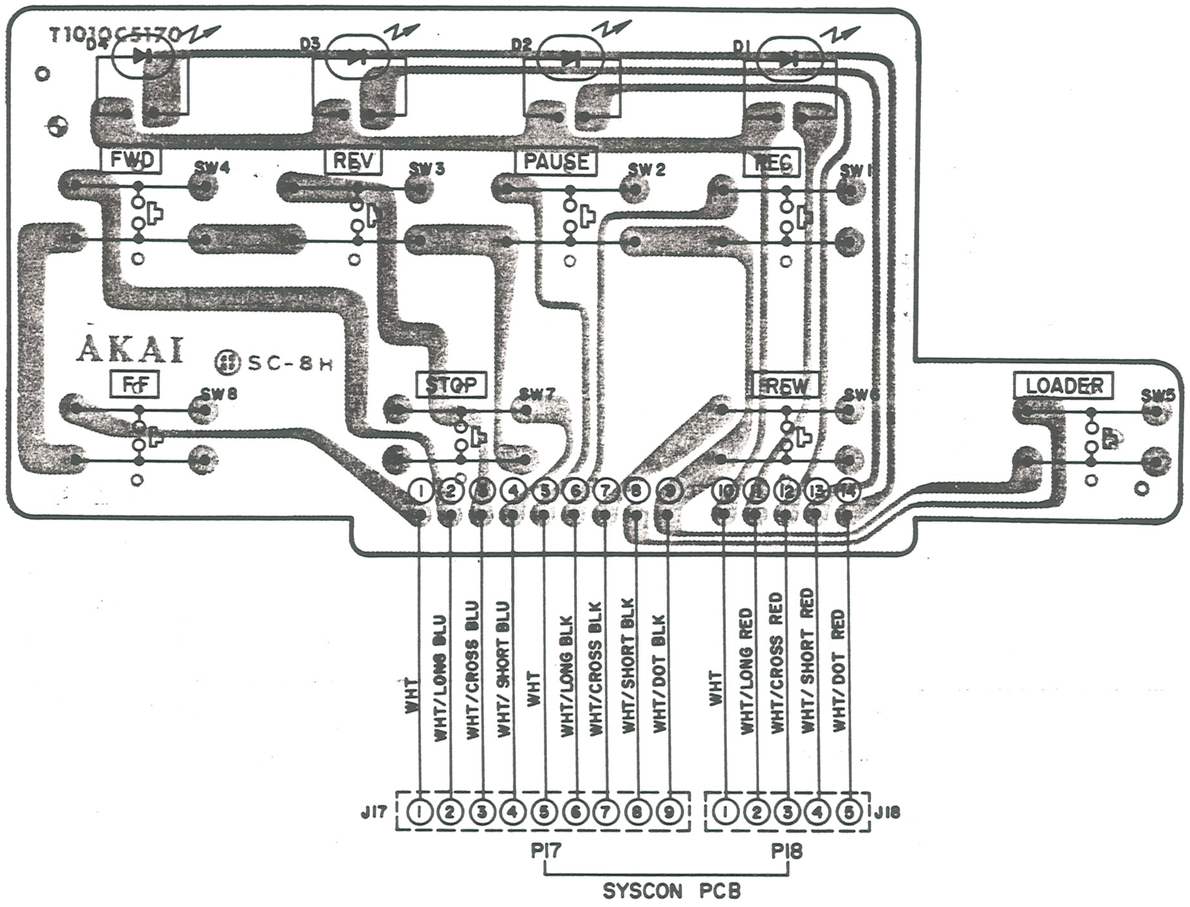


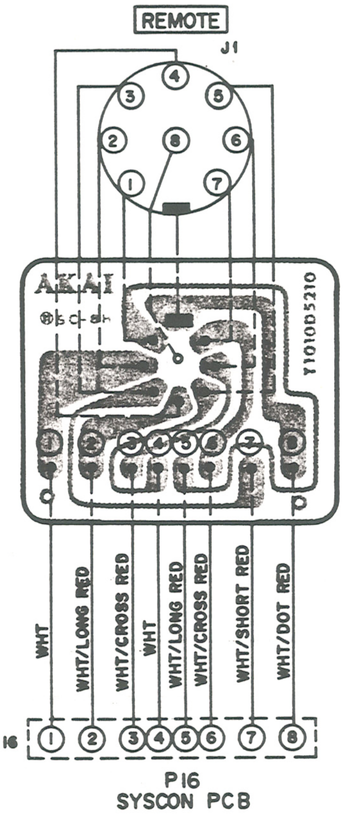
㉑
㉙
⚠F5
⚠C17
㉛
㉜
㉚
㉞
㉝
GRY
POWER
BRN
SW901 ⚠
⚠
B,S
AC 240V 50 Hz
BLU ㉚
240 V
RED ㉙
WHT ㉑
0V
⚠T901 NFT-3

WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

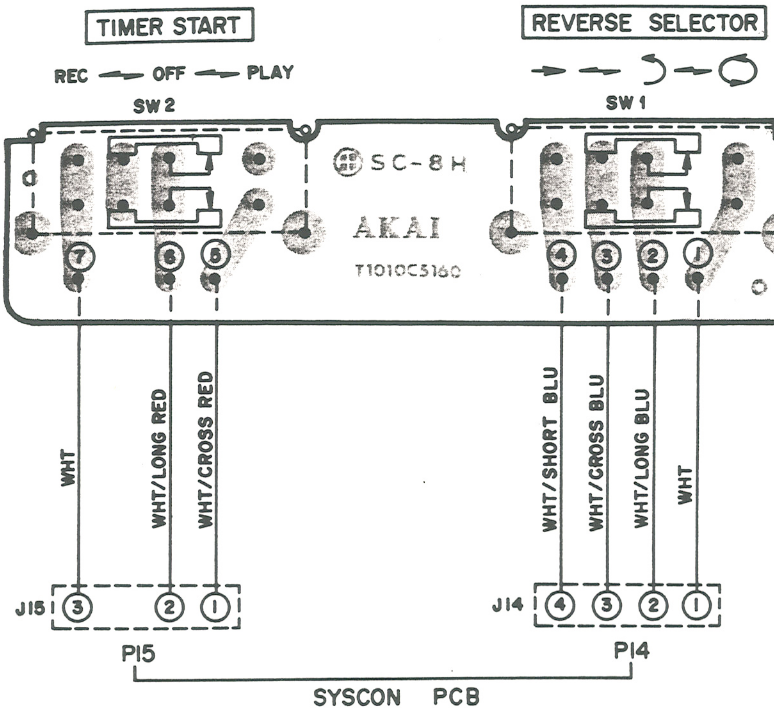
AVERTISSEMENT: ⚠ IL INDIQU LES COMPOSANTS CRITIQUES DE SÛRETÉ. POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL NE REMPLACER LES COMPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT

4) OPERATION P.C BOARD T1010C5170 and REMOCON P.C BOARD T1010D5210

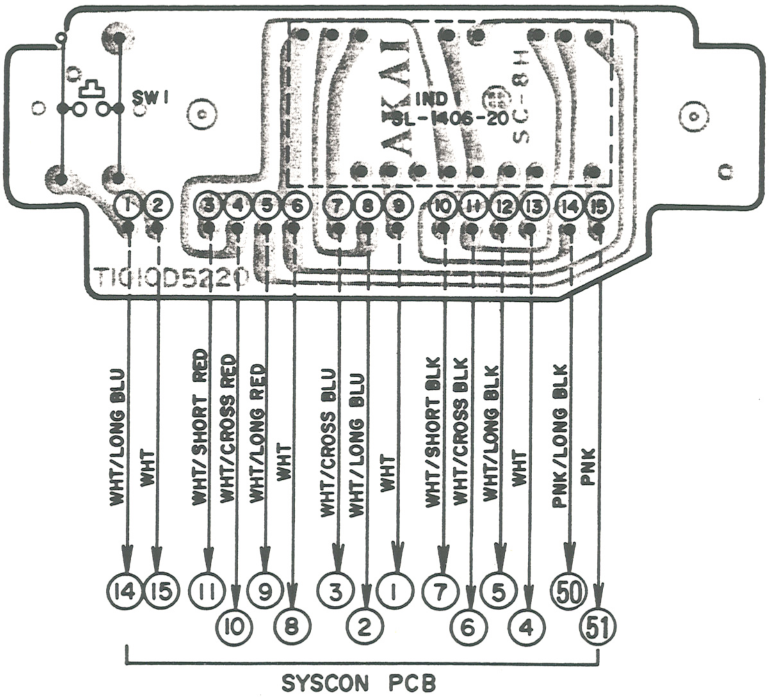

T1010C5170
D4
D3
D2
D1
FWD
SW4
REV
SW3
PAUSE
SW2
REC
SW1
AKAI
SC-8H
FF
SW8
STOP
SW7
REW
SW6
LOADER
SW5
1 2 3 4 5 6 7 8 9 10 11 12 13 14
WHT
WHT/LONG BLU
WHT/CROSS BLU
WHT/SHORT BLU
WHT
WHT/LONG BLK
WHT/CROSS BLK
WHT/SHORT BLK
WHT/DOT BLK
WHT
WHT/LONG RED
WHT/CROSS RED
WHT/SHORT RED
WHT/DOT RED
J17
1 2 3 4 5 6 7 8 9
1 2 3 4 5
J18
P17
P18
SYSCON PCB


REMOTE
J1
1 2 3 4 5 6 7 8
AKAI
SC-8H
T1010D5210
1 2 3 4 5 6 7 8
WHT
WHT/LONG RED
WHT/CROSS RED
WHT
WHT/LONG RED
WHT/CROSS RED
WHT/SHORT RED
WHT/DOT RED
J16
1 2 3 4 5 6 7 8
P16
SYSCON PCB

5) SELECTOR P.C BOARD T1010C5160 and COUNTER P.C BOARD T1010D5220



TIMER START
REC
OFF
PLAY
SW 2
REVERSE SELECTOR
SW 1
SC-8H
AKAI
T1010C5160
WHT
WHT/LONG RED
WHT/CROSS RED
WHT/SHORT BLU
WHT/CROSS BLU
WHT/LONG BLU
WHT
J15
J14
P15
P14
SYSCON PCB



SW 1
AKAI
IND
SL-1406-20
SC-8H
T1010D5220
WHT/LONG BLU
WHT
WHT/SHORT RED
WHT/CROSS RED
WHT/LONG RED
WHT
WHT/CROSS BLU
WHT/LONG BLU
WHT
WHT/SHORT BLK
WHT/CROSS BLK
WHT/LONG BLK
WHT
PNK/LONG BLK
PNK
SYSCON PCB

MEMO

SECTION 2

PARTS LIST

TABLE OF CONTENTS

1. RECOMMENDED SPARE PARTS 47
2. HEAD BLOCK 48
3. REEL TABLE BLOCK 50
4. ARM TENSION BLOCK 52
5. ROLLER BLOCK 53
6. MECHA BLOCK (1) 54
7. MECHA BLOCK (2) 56
8. PRE AMP P.C BOARD BLOCK 58
9. SYS. CON. P.C BOARD BLOCK 59
10. POWER SUPPLY P.C BOARD BLOCK 59
11. ASSEMBLY BLOCK 60
12. FINAL ASSEMBLY BLOCK 62
INDEX 63

Resistor and Capacitor which is not listed in this parts list, please refer to COMMON LIST FOR SERVICE PARTS.

HOW TO USE THIS PARTS LIST

1. This parts list is compiled by various individual blocks based on assembly process.
2. When ordering parts, please describe parts number, serial number, and model number in detail.
3. How to read List

   — The reference number corresponds with illustration or photo number of that particular parts list.

   — This number corresponds with the Figure Number.

   — This number corresponds with the individual parts index number in that figure.

   — A small "x" indicates the inability to show that particular part in the Photo or Illustration.

   12-115x

Ref. No.	Parts No.	Description
	FLYWHEEL BLOCK #13	
12-115x	800425	Flywheel Block Assy. Comp.
12-116	244506	Flywheel Only
12-117x	244754	Felt, Flywheel
12-118	251324	Main Metal Case
12-119	253080	Main Metal

4. The symbol numbers shown on the P.C. Board list can be matched with the Composite Views of Components of the Schematic Diagram or Service Manual.
5. Please utilize separate "Common List for Service Parts" for Resistor Parts orders.
6. The shape of the parts and parts name, etc. can be confirmed by comparing them with the parts shown on the Electrical Parts Table of P.C. Board.
7. Both the kind of part and installation position can be determined by the Parts Number. To determine where a parts number is listed, utilize Parts Index at end of Parts List.

   It is necessary first of all to find the Parts Number. This can be accomplished by using the Reference Number listed at right of parts number in the Parts Index. (meaning of ref. no. outlined in Item 3 above).
8. Utilize separate "Price List for Parts" to determine unit price. The most simple method of finding parts Price is to utilize the reference number.

CAUTION:

1. When placing an order for parts, be sure to list the parts no. model no., and description. There are instances in which if any of this information is omitted, parts cannot be shipped or the wrong parts will be delivered.
2. Please be careful not to make a mistake in the parts no. If the parts no. is in error, a part different from the one ordered may be delivered.
3. Because parts number and parts unit supply in the Preliminary Service Manual (Basic Parts List) may be partially changed, please use this parts list for all future reference.

WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.

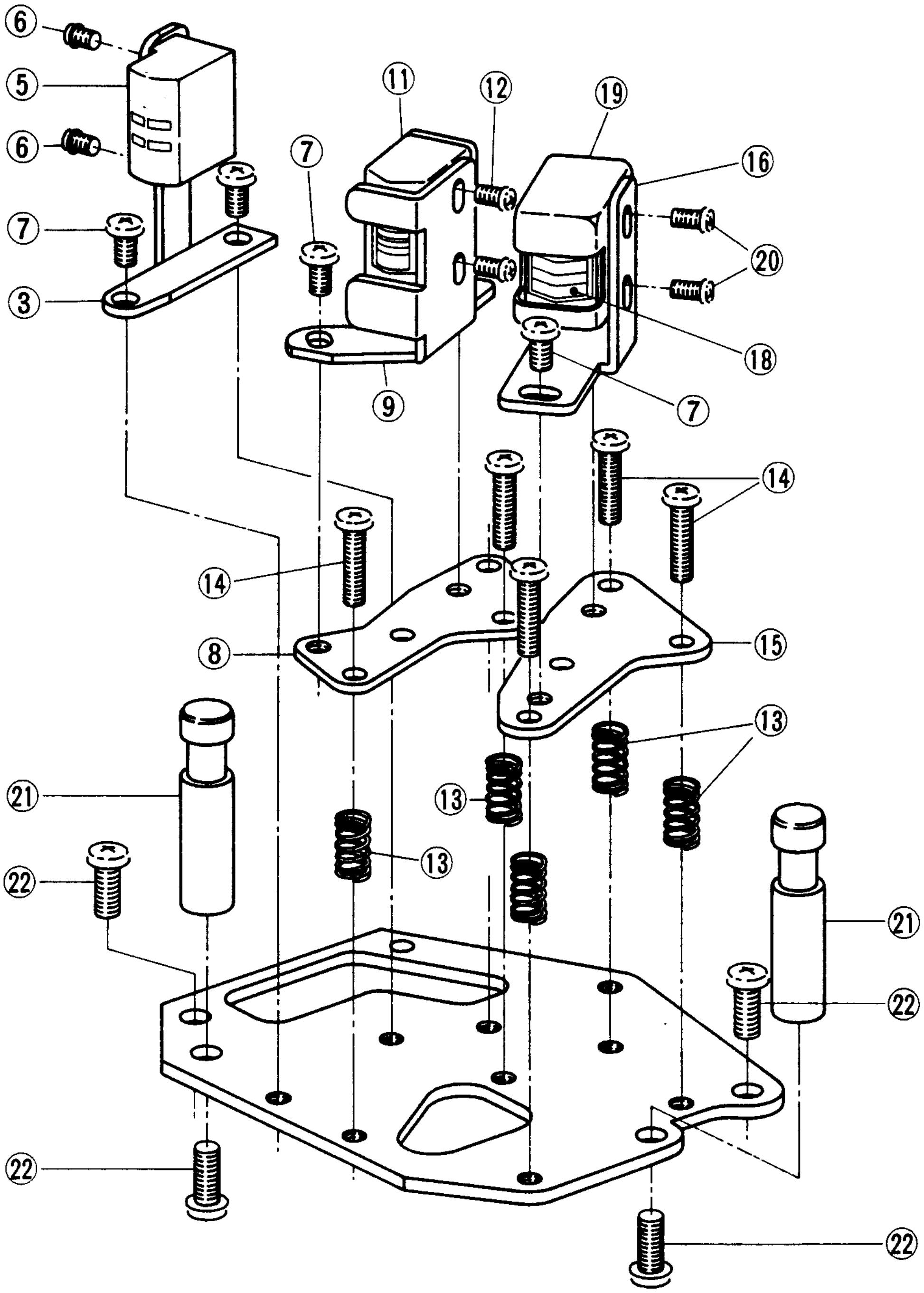
AVERTISSEMENT: ⚠ IL INDIQU LES COMPOSANTS CRITIQUES DE SURETE. POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL NE REMPLACER LES COMPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT.

1. RECOMMENDED SPARE PARTS

Because, if the parts listed below are on hand, almost any repair can be accomplished, we suggest that you stock these Recommended Spare Parts Items.

REF. NO.	PARTS NO.	DESCRIPTION
1-1	BMT1010A130A	CAPSTAN MOTOR BLK GX-77
1-2	BM331256	MOTOR 4322-010-75112
1-3	BT331218	⚠ TRANS POWER NFT-1 (U)
1-4	BT331219	⚠ TRANS POWER NFT-2 (J)
1-5	BT331220	⚠ TRANS POWER NFT-3 (E,B,S,V)
1-6	BT331221	⚠ TRANS POWER NFT-4 (C,A)
1-7	BZT1010A240A	GEAR LOADING BLK GX-77
1-8	BZT1010A050A	HOLDER LOADING ARM BLK GX-77
1-9	ED308952	D GERMA V 1K34A-LR F07
1-10	ED331227	D GERMA V 1K34A-UF SNP
1-11	ED330996	D LED GL-5HY5 YLW
1-12	ED330997	D LED GL-5PR5 RED
1-13	ED330995	D LED SLP-260C GRN
1-14	ED313566	D SILICON GP-25G 400/2.5A
1-15	ED301911	D SILICON H DS448
1-16	ED316143	D SILICON H 1S2473HS F10
1-17	ED330987	D SILICON RB152 200/1.5A
1-18	ED560913	D SILICON V 1S2473VE
1-19	ED306109	D SILICON W03B 100/1.0A
1-20	ED330622	D SILICON 1SR35-100VL 100/1.0A
1-21	ED319463	D SILICON 4B4B41 100/4.0A
1-22	ED330989	D ZENER H HZ11 B2
1-23	ED315759	D ZENER H HZ16 1
1-24	ED329051	D ZENER H HZ24 3
1-25	ED331198	D ZENER H HZ3 A1
1-26	ED331197	D ZENER H HZ6 C1
1-27	ED324082	IND FL SL-1406-20 CHARACTOR
1-28	ED331263	IND LE LT-1016 GRAPH
1-29	EF258344	⚠ FUSE SEMKO T 250V 0.80A (F3) (U,E,B,S,V)
1-30	EF602550	⚠ FUSE SEMKO T 250V 1.25A (F4) (U,E,B,S,V)
1-31	EF602550	⚠ FUSE SEMKO T 250V 1.25A (F5) (U,E,B,S,V)
1-32	EF601964	⚠ FUSE SEMKO T 250V 1.60A (F2) (U,E,B,S,V)
1-33	EF601301	⚠ FUSE SEMKO T 250V 2A (F1) (U,E,B,S,V)
1-34	EF309388	⚠ FUSE TSC A 250V 0.80A (F3)(J)
1-35	EF306949	⚠ FUSE TSC A 250V 1.25A (F4)(J)
1-36	EF311839	⚠ FUSE TSC A 250V 1.6A (F2) (J)
1-37	EF306951	⚠ FUSE TSC A 250V 2.5A (F1) (J)
1-38	EF309391	⚠ FUSE TSC 125V 0.08A (F3)(C,A)
1-39	EF309392	⚠ FUSE TSC 125V 1.25A (F4)(C,A)
1-40	EF308847	⚠ FUSE TSC 125V 1.60A (F2)(C,A)
1-41	EF306956	⚠ FUSE TSC 125V 2.5A (F1)(C,A)
1-42	EI331573	IC HD14042BP
1-43	EI331222	IC HD38800A42
1-44	EI213390	IC NJM4558D
1-45	EI331249	IC µPC78M10H
1-46	EL324540	PL H LEAD 12V 55MA
1-47	EP331258	SOLENOID 0730TLT1
1-48	EP331257	SOLENOID 1240PLT1
1-49	EP331254	SOLENOID 1664TLT1 (TDS-16C-01)
1-50	EP331253	SOLENOID 1664TLT1 (TDS-16C-02)
1-51	ER331188	R FUSE ERD2FC F10 1/4W 8R2J
1-52	ER319510	R FUSE FR25SJ 1/4W 560J
1-53	ES283151	SW LEAF BSW-31NL 01-1 NO
1-54	ES331259	SW LEAF BSW-810 01-1 NO
1-55	ES319448	SW LEVER 00420461 2-04-02N
1-56	ES331203	SW LEVER 00620387 2-06-02S
1-57	ES331205	SW LEVER 00820190 2-08-02S
1-58	ES331575	SW MICRO D2MV-01-1C1 CU
1-59	ES330422	SW PUSH SDL1P 01-1 E (U,E,B,S,V)
1-60	ES330420	SW PUSH SDL1P 01-1 J (J)
1-61	ES330421	SW PUSH SDL1P 01-1 UC (C,A)
1-62	ES331204	SW SLIDE CL208E 2-08-02W
1-63	ES301435	SW SLIDE CL210E 2-10-02S
1-64	ES331260	SW SLIDE SSB423 2-02-03N
1-65	ES283072	SW SLIDE SSC22LP 2-02-02N
1-66	ES315362	SW TACT AKC8S
1-67	ET324539	TR PHOTO PT-410C C
1-68	ET200558	TR 2SA1115 E,F
1-69	ET331223	TR 2SA608KWBNP F,G SNP
1-70	ET324134	TR 2SA984K E,F
1-71	ET666415	TR 2SB605 K,L
1-72	ET375603	TR 2SC1061B,C
1-73	ET317919	TR 2SC1061 C,D
1-74	ET603257	TR 2SC1312S G,H
1-75	ET331279	TR 2SC1843 P,F SNP
1-76	ET308954	TR 2SC1844 E,F
1-77	ET309353	TR 2SC2274 E,F
1-78	ET331225	TR 2SC2274K-WB E,F SNP
1-79	ET200505	TR 2SC2603 E,F
1-80	ET331224	TR 2SC536KWBNP F,G SNP
1-81	ET639437	TR 2SC945L Q,P
1-82	ET219857	TR 2SD438 E,F
1-83	ET307349	TR 2SD794 P,Q
1-84	ET331196	TR 2SD863 E
1-85	EV336853	R S-FIX H KVSF807V 3P103
1-86	EV336849	R S-FIX H KVSF807V 3P203
1-87	EV336843	R S-FIX H KVSF807V 3P303
1-88	EV341225	R S-FIX H KVSF807V 3P503
1-89	EV331199	VR ROTARY 16P10×1E 15A503
1-90	EV331201	VR ROTARY 16P20×2F A503
1-91	EV331202	VR ROTARY 16P20×2G 3B103
1-92	EV331285	VR ROTARY 16P20×2H B502
1-93	HEH1305A010A	HEAD E E4-245 O
1-94	HPH1005A010A	HEAD PB P4-500 O
1-95	HRH1103A010A	HEAD REC R4-242 O
1-96	MB331350	BELT CAPSTAN
1-97	MB331351	BELT REEL
1-98	MI331310	FLYWHEEL (A)
1-99	MI331311	FLYWHEEL (B)
1-100	MP331347	ROLLER PINCH
1-101	MZ331397	GEAR LOADING (B)
1-102	SZ331312	GEAR CAPSTAN
1-103	SZ331394	GEAR FIX
1-104	SZ338391	GEAR SET

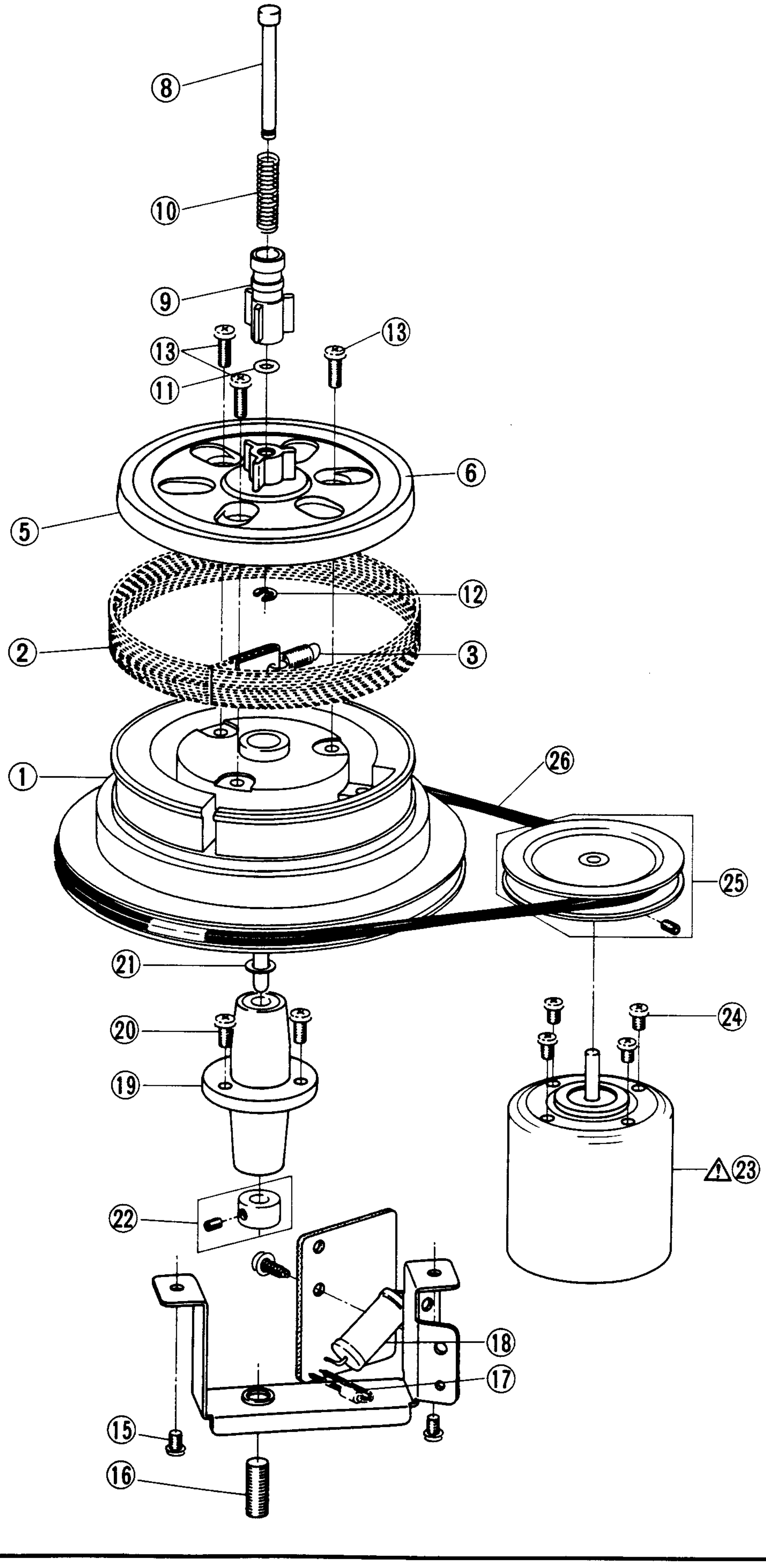
HEAD BLOCK


⑥
⑤
⑥
⑦
③
⑪
⑫
⑲
⑦
⑯
⑳
⑱
⑨
⑦
⑭
⑭
⑧
⑮
⑬
㉑
⑬
⑬
㉒
㉑
㉒
㉒
㉒

2. HEAD BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
2-1	BHT1010A370A	ANGLE HEAD (R) BLK GX-77
2-2	BHT1010A360A	ANGLE HEAD (L) BLK GX-77
2-3	HZ331172	CHASSIS HEAD
2-4x	HZ331171A	ANGLE E HEAD (L)
2-5	HEH1305A010A	HEAD E E4-245 O
2-6	ZS477876	PAN20x03STL CMT
2-7	ZS323728	BID30x05STL CMT
2-8	HZ331147	HOLDER REC HEAD ANGLE
2-9	HZ331148B	ANGLE REC HEAD (R)
2-10x	HZ331148A	ANGLE REC HEAD (L)
2-11	HRH1103A010A	HEAD REC R4-242 O
2-12	ZS460440	PAN20x04STL CMT
2-13	ZG206144	ANGLE ADJUST SPRING
2-14	ZS419670	PAN30x12STL CMT
2-15	HZ331149	HOLDER PB HEAD ANGLE
2-16	HZ331150B	ANGLE PB HEAD (R)
2-17x	HZ331150A	ANGLE PB HEAD (L)
2-18	HPH1005A010A	HEAD PB P4-500 O
2-19	HZ330925	HEAD SHIELD
2-20	ZS608095	PAN20x05STL CMT
2-21	HZ331151	GUIDE TAPE
2-22	ZS417150	PAN40x06STL CMT

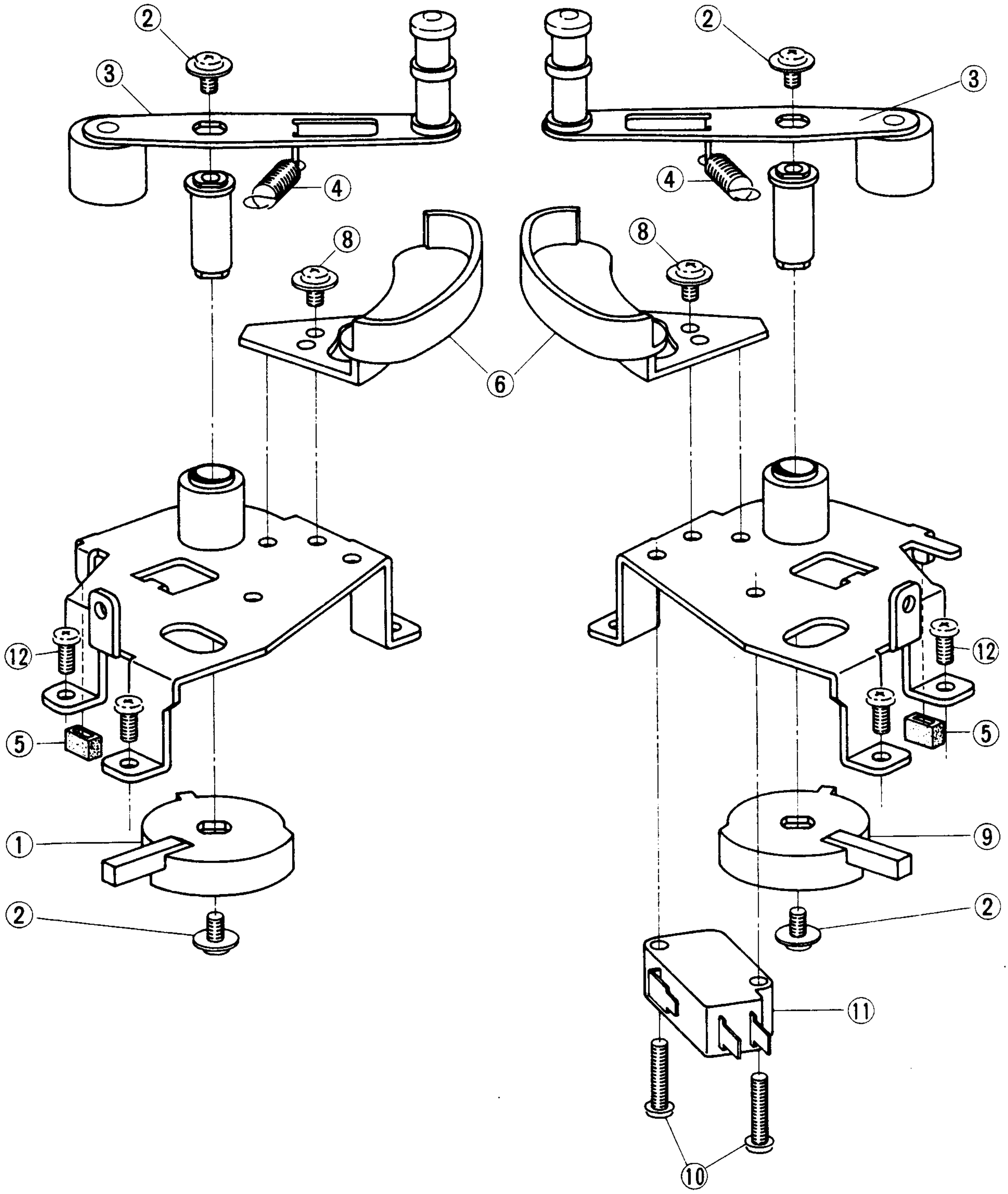
REEL TABLE BLOCK


⑧
⑩
⑨
⑬
⑬
⑪
⑥
⑤
⑫
②
③
㉖
①
㉕
㉑
⑳
㉔
⑲
⚠㉓
㉒
⑱
⑰
⑮
⑯

3. REEL TABLE BLOCK

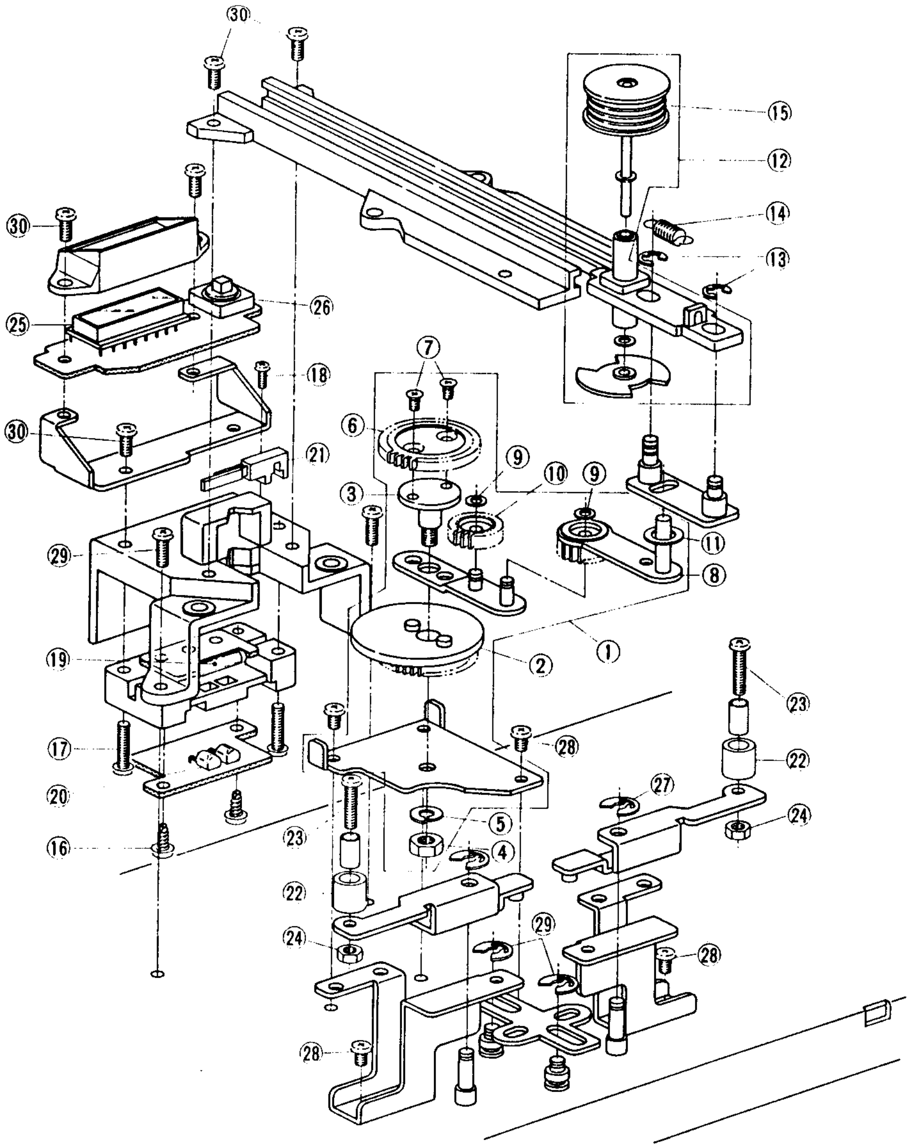
REF. NO.	PARTS NO.	DESCRIPTION
	PULLEY REEL BLOCK	
3-1	MR331432	PULLEY REEL
	BRAKE CLOTH ASSY	
3-2	MTT1003A340A	BRAKE CLOTH ASSY GX-215D
3-3	ZG317496	FELT TENSION SPRING
3-4x	ZS455207	T2BR30x05STL CMT
	REEL TABLE BLOCK	
3-5	MTB603571	REEL TABLE W/RUBBER(B) PART
3-6	MT300426	REEL TABLE RUBBER
3-7x	MTB604269	REEL TABLE W/RUBBER(C) PART (BL)
3-8	MS342000	REEL SHAFT
3-9	MT458943	REEL RETAINER
3-10	ZG255633	REEL SPRING
3-11	MT516565	'O' RING 2.8x1.9
3-12	ZW270088	RING E 190SUP CMT
3-13	ZS336628	BT BID30x14STL NI3
3-14x	ZS336629	BT BID30x14STL BNI (BL)
	HOLDER REEL BLOCK	
3-15	ZS331111	T2BR30x08STL CMT TWB
3-16	ZS302318	HOLD SCREW
	PC RELAY BLOCK	
3-17	ED306109	D SILICON W03B 100/1.0A (D1)
3-18	ER280710	R OMF H FS 3W 101J (R1)
	ASSEMBLY BLOCK	
3-19	MZ331362	HOLDER REEL SHAFT
3-20	ZS379350	PAN30x06STL CMT
3-21	ZW259738	PW41x070x025PSL
3-22	MT331326	RING REEL
3-23	BM331256	⚠ MOTOR 4322-010-75112
3-24	ZS417216	PAN30x04STL CMT
3-25	MR331328	PULLEY REEL MOTOR
3-26	MB331351	BELT REEL

ARM TENSION BLOCK



4. ARM TENSION BLOCK

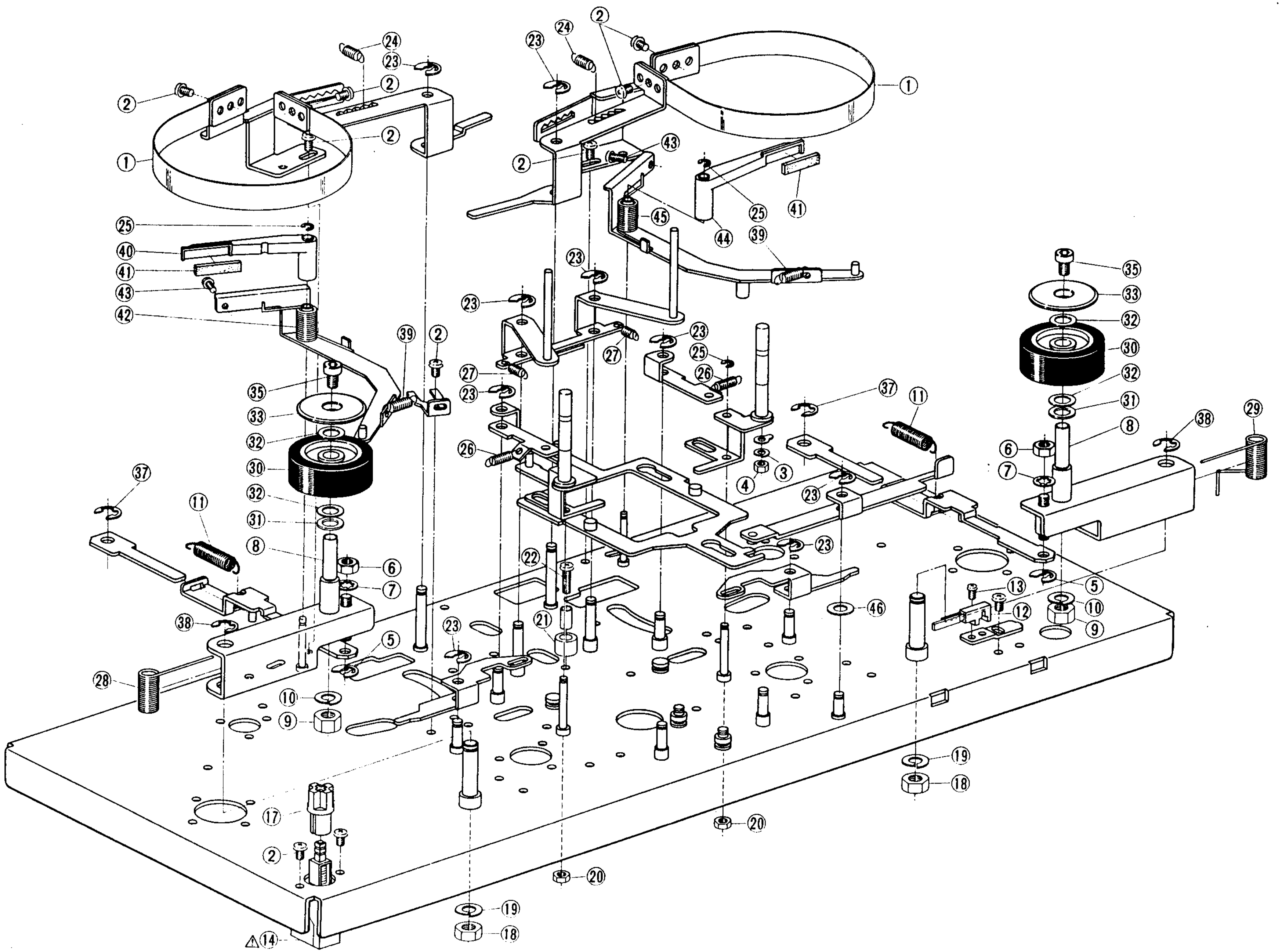
REF. NO.	PARTS NO.	DESCRIPTION
4-1	SZ331421A	CAM TENSION ARM (L)
4-2	ZS265814	PAN30×05STL CMT PW080
4-3	BZB331423	ARM TENSION PART
4-4	ZG331427	SP PULL TENSION ARM (R)
4-5	MB282104	BRAKE RUBBER
4-6	SE331429A	ESCUTCHEON ARM
4-7x	SE331429B	ESCUTCHEON ARM (BL)
4-8	ZS379350	PAN30×06STL CMT
4-9	SZ331421B	CAM TENSION ARM (R)
4-10	ZS483502	PAN30×13STL CMT
4-11	ES331575	SW MICRO D2MV-01-1C1 CU
4-12	ZS379350	PAN30×06STL CMT



5. ROLLER BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
		HOLDER LOADING ARM BLOCK
5-1	BZT1010A050A	HOLDER LOADING ARM BLK GX-77
5-2	SZ338391	GEAR SET
5-3	MH331392	PROP 3 GEAR
5-4	ZW413188	N40STL CMT 1
5-5	ZW273892	TW40
5-6	SZ331394	GEAR FIX
5-7	ZS430413	CTS26x04STL CMT
5-8	BZB331398	ARM LOADING (A) PART
5-9	ZW282407	PUSH WASHER (B)
5-10	MZ331397	GEAR LOADING (B)
5-11	ZW260010	PW61x100x010PBR
		ROLLER BLOCK
5-12	BZT1010A070A	ROLLER BLK GX-77
5-13	ZW336595	RING E 300SUP ACP
5-14	ZG331407	SP PULL SET
5-15	MR331433	RING ROLLER
		HOLDER ROLLER BLOCK
5-16	ZS325495	T2BR30x06STL CMT
5-17	ZS419670	PAN30x12STL CMT
5-18	ZS537085	BID20x05STL CMT
		PC LAMP BLOCK
5-19	EL324540	PL H LEAD 12V 55MA (IN1)
		PC DETECTION BLOCK
5-20	ET324539	TR PHOTO PT-410C C (TR1,2)
		LEAF SW BLOCK
5-21	ES283151	SW LEAF BSW-31NL 01-1 NO (SW905)
		LEVER PICK-UP BLOCK
5-22	MB606712	KJ STOPPER RUBBER
5-23	ZS483502	PAN30x13STL CMT
5-24	ZW516993	N30STL CMT 1
		PC COUNTER BLOCK
5-25	ED324082	IND FL SL-1406-20 CHARACTOR (IN1)
5-26	ES328414	SW TACT KHC10901 (SW1)
		ASSEMBLY BLOCK
5-27	ZW290283	RING U 285SUP CMT
5-28	ZS417216	PAN30x04STL CMT
5-29	ZS421806	PAN30x08STL CMT
5-30	ZS379350	PAN30x06STL CMT

MECHA BLOCK (1)

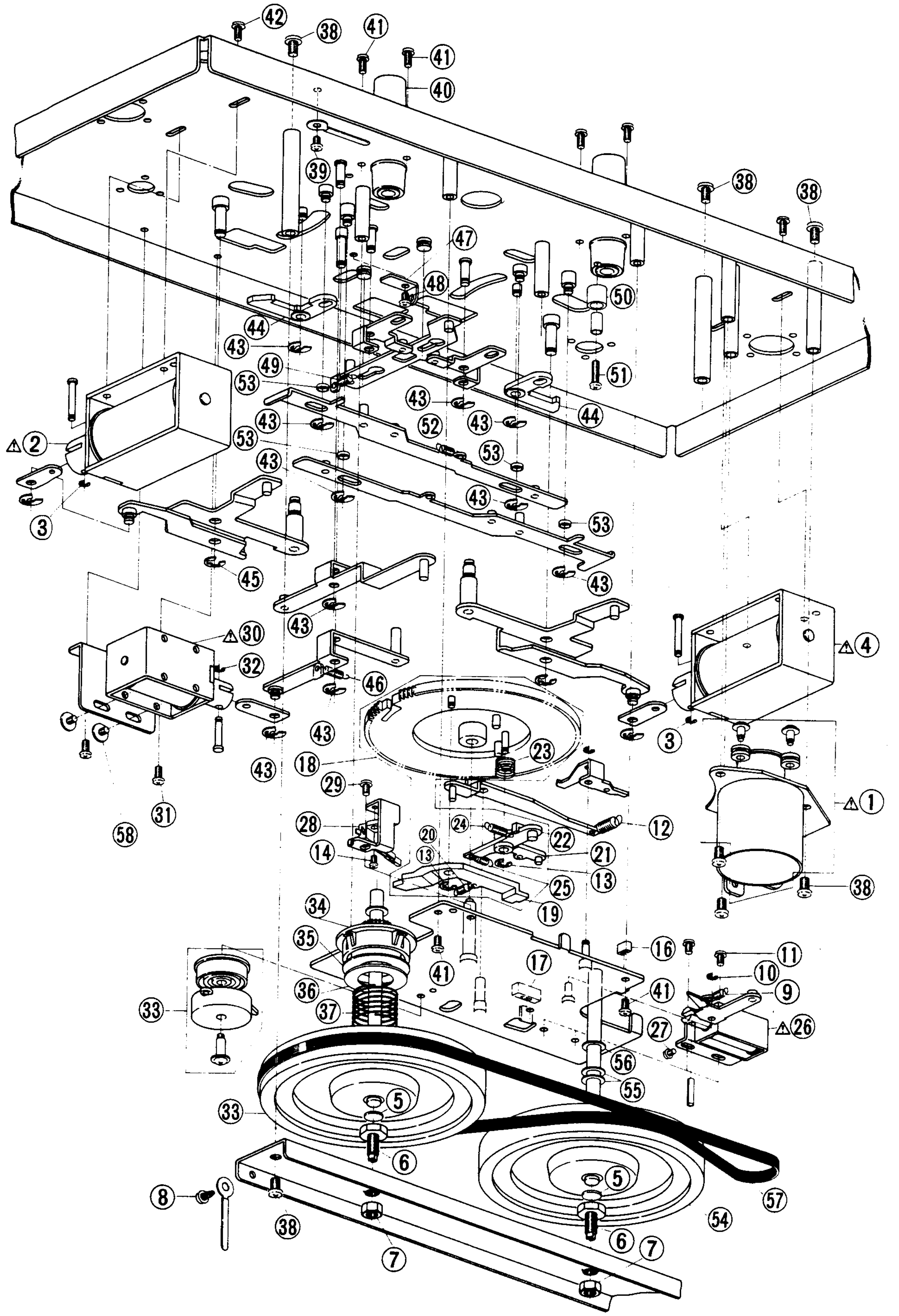


㉔
㉓
②
②
①
②
㉕
㊵
㊶
㊸
㊷
㉟
㉝
㉜
㉚
㉜
㉛
⑧
⑥
⑦
㊴
②
㊲
⑪
㊳
⑤
㉘
⑩
⑨
⑰
②
⚠⑭
⑲
⑱
⑳
㉓
㉔
②
①
②
㊸
㉕
㊶
㊺
㊹
㊴
㉓
㉓
㉗
㉓
㉗
㉓
㉕
㉖
㉖
③
④
㉓
㉓
㉒
㉑
㉓
⑳
㊻
㊲
⑪
㉟
㉝
㉜
㉚
㉜
㉛
⑧
⑥
⑦
㊳
㉙
⑤
⑬
⑫
⑩
⑨
⑲
⑱

6. MECHA BLOCK (1)

REF. NO.	PARTS NO.	DESCRIPTION
	ARM BRAKE BLOCK	
6-1	MZ331557	BRAKE BAND (B)
6-2	ZS417216	PAN30x04STL CMT
	ARM SHIFTER BLOCK	
6-3	ZW609322	N26BRS 1
6-4	ZW307947	SW26
	ARM PLAY BLOCK	
6-5	ZW290283	RING U 285SUP CMT
6-6	ZW413188	N40STL CMT 1
6-7	ZW273892	TW40
6-8	MH331308	PROP 6 PINCH ROLLER
6-9	ZW413278	N50STL CMT 1
6-10	ZW274026	SW50
6-11	ZG331352	SP PULL PINCH ROLLER
	HOLDER MUTE SW BLOCK	
6-12	ES283151	SW LEAF BSW-31NL 01-1 NO (SW901)
6-13	ZS464703	BID20x04STL CMT
	POWER SW BLOCK	
6-14	ES330422	⚠ SW PUSH SDL1P 01-1 E (U,E,B,S,V)
6-15x	ES330420	⚠ SW PUSH SDL1P 01-1 J (J)
6-16x	ES330421	⚠ SW PUSH SDL1P 01-1 UC (C,A)
6-17	ML321550	JOINT
	ASSEMBLY BLOCK	
6-18	ZW413278	N50STL CMT 1
6-19	ZW274026	SW50
6-20	ZW516993	N30STL CMT 1
6-21	SA331372	CUSHION STOPPER
6-22	ZS380046	PAN30x10STL CMT
6-23	ZW290283	RING U 285SUP CMT
6-24	ZG312996	SP T1-4.0/0.4-14.0 T1-110
6-25	ZW270088	RING E 190SUP CMT
6-26	ZG312947	SP T1-3.2/0.29-18.0 T1-063
6-27	ZG385457	FF LEVER RETURN SPRING
6-28	ZG331354A	SP TORSION P ROLLER RETURN (L)
6-29	ZG331354B	SP TORSION P ROLLER RETURN (R)
6-30	MP331347	ROLLER PINCH
6-31	ZW260076	PW61x100x050NYL
6-32	ZW376391	PW61x100x013PSL
6-33	SK331339A	CAP PINCH ROLLER
6-34x	SK331339B	CAP PINCH ROLLER (BL)
6-35	ZS613901	PANEL SCREW
6-36x	ZS306435	PANEL SCREW (C)
6-37	ZW270123	RING E400SUP CMT
6-38	ZW270134	RING E500SUP CMT
6-39	ZG331353	SP PULL TENSION SERVO
6-40	BZB331336A	ARM SERVO (A-L) PART
6-41	SZ331337	FELT SERVO
6-42	ZG331355A	SP TORSION SERVO ADJ (L)
6-43	ZS590804	PAN23x06STL CMT
6-44	BZB331336B	ARM SERVO (A-R) PART
6-45	ZG331355B	SP TORSION SERVO ADJ (R)
6-46	ZW259931	PW51x103x030PBR

MECHA BLOCK (2)


㊷
㊳
㊶
㊶
㊵
㊴
㊳
㊳
㊼
㊽
㊿
㊹
㊸
㊾
(53)
(51)
㊸
㊹
㊸
(52)
㊸
⚠②
(53)
(53)
㊸
㊸
(53)
③
㊺
㊸
㊸
⚠㉚
⚠④
㉜
㊻
③
㊸
㉓
⑱
㊸
㉙
⚠①
㉛
(58)
㉘
㉔
⑳
㉒
⑫
㉑
⑭
⑬
⑬
㉕
㊳
⑲
㉞
㉟
⑯
⑪
㊶
⑰
⑩
㊱
㊶
⑨
㊲
㉝
㉗
⚠㉖
(56)
(55)
⑤
㉝
⑥
⑤
⑧
(57)
(54)
㊳
⑥
⑦
⑦

7. MECHA BLOCK (2)

REF. NO.	PARTS NO.	DESCRIPTION
		CAPSTAN MOTOR BLOCK
7-1	BMT1010A130A	⚠ CAPSTAN MOTOR BLK GX-77
		PR PLUNGER (L) BLOCK
7-2	EP331253	⚠ SOLENOID 1664TLT1 (TDS-16C-02) (SL901)
7-3	ZW357164	RING E230SUP CMT
		PR PLUNGER (R) BLOCK
7-4	EP331254	⚠ SOLENOID 1664TLT1 (TDS-16C-01) (SL902)
		HOLDER FLYWHEEL BLOCK
7-5	ZW462205	WASHER (WITHOUT HOLE) 79x100NYL
7-6	MZ585900	SHAFT SUPPORT
7-7	ZW413278	N50STL CMT 1
7-8	ZS325495	T2BR30x06STL CMT
		CHASSIS SUB BLOCK
7-9	ZG336117	SP PULL PLUNGER RETURN
7-10	ZW270088	RING E 190SUP CMT
7-11	ZS331530	BID30x40STL CMT
7-12	ZG313043	SP T1-5.0/0.55-20.0 T1-156
7-13	ZW270101	RING E300SUP CMT
7-14	ZS417216	PAN30x04STL CMT
7-15	BZT1010A270A	DAMPER (B) BLK GX-77
7-16	MB282104	BRAKE RUBBER
7-17	MB665561	TE STOPPER RUBBER
		GEAR LOADING BLOCK
7-18	BZT1010A240A	GEAR LOADING BLK GX-77
7-19	ML331379	LEVER TRIGGER
7-20	ZG312923	SP T1-3.2/0.2-11.2 T1-040
7-21	ML331381	LEVER LOADING (A)
7-22	MC331382	LEVER LOADING (B)
7-23	ZG332778	SP PUSH TRIGER
7-24	ZG312946	SP T1-3.2/0.29-16.0 T1-062
7-25	ZG312925	SP T1-3.2/0.2-14.0 T1-042
		HOLDER PLUNGER BLOCK
7-26	EP331258	⚠ SOLENOID 0730TLT1 (SL901)
7-27	ZS592378	PAN26x03STL CMT
		LEAF SW (B) BLOCK
7-28	ES331259	SW LEAF BSW-810 01-1 NO(SW903)
7-29	ZS460440	PAN20x04STL CMT
		BRAKE PLUNGER BLOCK
7-30	EP331257	⚠ SOLENOID 1240PLT1 (SL904)
7-31	ZS417137	BID30x04STL CMT
7-32	ZW270088	RING E 190SUP CMT
		FLYWHEEL (A) BLOCK
7-33	MI331310	FLYWHEEL (A)
7-34	SZ331312	GEAR CAPSTAN
7-35	SZ331313	CAP CLUTCH
7-36	SZ331314	FELT CLUTCH
7-37	ZG331315	SP PUSH CLUTCH
		ASSEMBLY BLOCK
7-38	ZS417150	PAN40x06STL CMT
7-39	ZS417216	PAN30x04STL CMT
7-40	MV331361	HOLDER CAPSTAN SHAFT
7-41	ZS379350	PAN30x06STL CMT
7-42	ZS379405	BID30x06STL CMT
7-43	ZW290283	RING U 285SUP CMT
7-44	SZ331317	ARM SERVO RELEASE
7-45	ZW270123	RING E400SUP CMT
7-46	ZG312962	SP T1-3.2/0.45-16.0 T1-077
7-47	ZG331324	HOLDER SPRING
7-48	ZS417216	PAN30x04STL CMT
7-49	ZG312945	SP T1-3.2/0.29-14.0 T1-061
7-50	MB606712	KJ STOPPER RUBBER

REF. NO.	PARTS NO.	DESCRIPTION
7-51	ZS419670	PAN30x12STL CMT
7-52	ZG336313	SP PULL PLAY SLIDE RETURN
7-53	MV331325	ROLLER
7-54	MI331311	FLYWHEEL (B)
7-55	ZW560215	PW61x100x050TFL
7-56	ZW331858	WASHER CAPSTAN
7-57	MB331350	BELT CAPSTAN
7-58	ZS417216	PAN30x04STL CMT

8. PRE AMP P.C BOARD BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
8-1	BAT1010A520A	PC PRE AMP BLK GX-77(U) (U,J,C,A) (INCLUDING VR PCB)
8-2	BAT1010A520B	PC PRE AMP BLK GX-77(S) (S) (INCLUDING VR PCB)
8-3	BAT1010A520C	PC PRE AMP BLK GX-77(E) (E,B,V) (INCLUDING VR PCB)
	PRE AMP P.C BOARD BLOCK	
8-IC1	EI213390	IC NJM4558D
8-TR1,2	ET308954	TR 2SC1844 E,F
8-TR3	ET603257	⚠ TR 2SC1312S G,H
8-TR4,5	ET331279	TR 2SC1843 P,F SNP
8-TR6,7	ET200505	TR 2SC2603 E,F
8-TR8	ET308954	TR 2SC1844 E,F
8-TR9	ET603257	TR 2SC1312S G,H
8-TR10	ET200505	TR 2SC2603 E,F
8-TR11	ET603257	TR 2SC1312S G,H
8-TR12	ET331279	TR 2SC1843 P,F SNP
8-TR13	ET603257	TR 2SC1312S G,H
8-TR14	ET200505	TR 2SC2603 E,F
8-TR15	ET309353	TR 2SC2274 E,F
8-TR16	ET324134	TR 2SA984K E,F
8-TR17to22	ET200505	TR 2SC2603 E,F
8-TR23	ET200558	TR 2SA1115 E,F
8-TR24to27	ET200505	TR 2SC2603 E,F
8-TR28	ET603257	TR 2SC1312S G,H
8-TR29	ET375603	⚠ TR 2SC1061 B,C
8-TR30	ET200505	TR 2SC2603 E,F
8-TR31,32	ET331196	⚠ TR 2SD863 E
8-TR33,34	ET200505	TR 2SC2603 E,F
8-D1	ED316143	D SILICON H 1S2473HS F10
8-D2	ED331197	D ZENER H HZ6 C1
8-D3,4	ED301911	D SILICON H DS448
8-D5,6	ED316143	D SILICON H 1S2473HS F10
8-D7to10	ED301911	D SILICON H DS448
8-D11,12	ED308952	D GERMA V 1K34A-LR F07
8-D13	ED301911	D SILICON H DS448
8-D14	ED316143	D SILICON H 1S2473HS F10
8-D15	ED331198	D ZENER H HZ3 A1
8-D16,17	ED301911	D SILICON H DS448
8-J1	EJ331602	PHONE J 3P HLJ0327-020 6.3 20
8-J2	EJ319466	PIN J UA-1069 #01 P 4P (U,J,C,A)
8-J2	EJ308985	JACK PLATE DIN, PIN JACK 4P (E,B,S,V)
8-SW1	ES331204	SW SLIDE CL208E 2-08-02W
8-SW2	ES301435	SW SLIDE CL210E 2-10-02S
8-SW3	ES283072	SW SLIDE SSC22LP 2-02-02N
8-SW4	ES319448	SW LEVER 00420461 2-04-02N
8-SW5	ES331203	SW LEVER 00620387 2-06-02S
8-SW6	ES331205	SW LEVER 00820190 2-08-02S
8-VR1	EV331202	VR ROTARY 16P20x2G 3B103
8-VR2	EV331285	VR ROTARY 16P20x2H B502
8-VR5	EV336853	R S-FIX H KVSF807V 3P 103
8-VR6,7	EV336849	R S-FIX H KVSF807V 3P 203
8-VR8,9	EV341225	R S-FIX H KVSF807V 3P 503
8-VR10,11	EV336853	R S-FIX H KVSF807V 3P 103
8-VR12	EV336843	R S-FIX H KVSF807V 3P 303
8-L1	EO331190	COIL OSC 1 2330-065 100KHZ
8-L2,3	EO315758	COIL TUN 1 100S-431 100KHZ
8-FL1	EO319447	COIL TUN 1 GYD-100K 100KHZ
8-FL2	EO319495	COIL VARI 1 GYD-102 1MH
8-FL3	EO331280	COIL VARI 1 46-1072-11 22MH
8-RL1,2	EP249344	RELAY LEAD L24(M) 2NO 24V
8-TC1	EO330991	C S-FIX H ECR-BC090M11 8.0-90
8-FR1	ER319510	⚠ R FUSE FR25SJ 1/4W 560J
8-FR2,3	ER331188	⚠ R FUSE ERD2FC F10 1/4W 8R2J
8-R39	ER331281	R MF H 1/4W 2802F
8-R112	ER332362	R MF H F10 1/4W 2202G
8-R113	ER332363	R MF H F10 1/4W 3902G
8-R121	ER317595	R OMF H FS 2W 471J
8-C8	EC474671	C MC V FM 100K 500DC
8-C22	EC474671	C MC V FM 100K 500DC
8-C24	EC306987	C STY V F05 500 471J 50DC

REF. NO.	PARTS NO.	DESCRIPTION
8-C25	EC285513	C MC V FM 220K 500DC
8-C35	EC285513	C MC V FM 220K 500DC
8-C38	EC305422	C TT V D R33K 35DC
8-C56	EC201345	C MC V FM 300K 500DC
8-C75	EC325380	C PP V F10 PFH 332J 630DC
	VR P.C BOARD BLOCK	
8-VR1	EV331199	VR ROTARY 16P10x1E 15A503
8-VR2	EV331201	VR ROTARY 16P20x2F A503

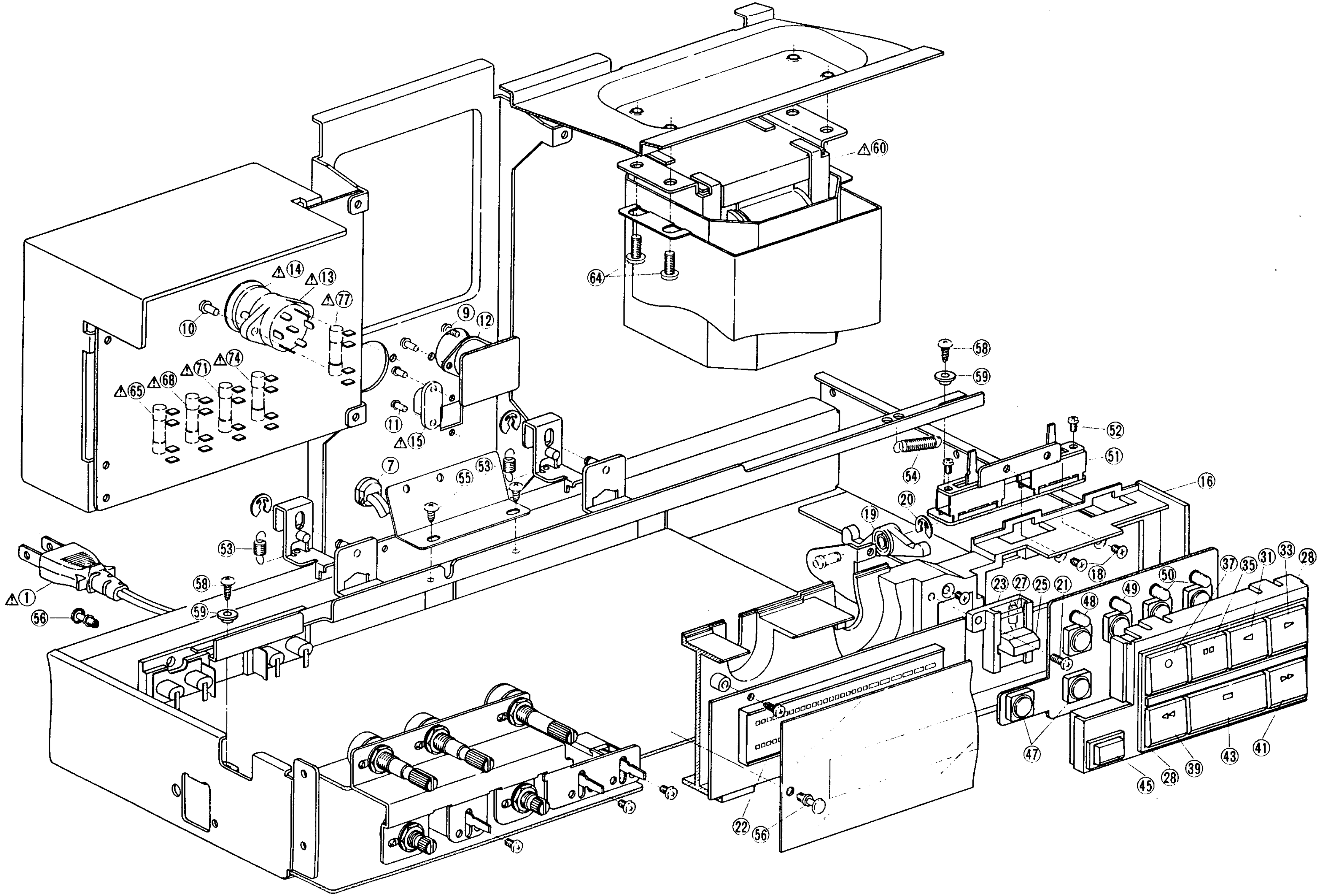
9. SYS. CON. P.C BOARD BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
9-1	BAT1010A450A	PC SYSCON BLK GX-77 (EXCEPT A)
9-2	BAT1010A450B	PC SYSCON BLK (A)
9-IC1	EI331222	IC HD38800A42
9-IC2	EI331573	IC HD14042BP
9-TR1to10	ET331223	TR 2SA608KWBNP F,G SNP
9-TR11to22	ET331224	TR 2SC536KWBNP F,G SNP
9-TR23	ET307349	⚠ TR 2SD794 P,Q
9-TR24	ET331224	TR 2SC536KWBNP F,G SNP
9-TR25	ET307349	⚠ TR 2SD794 P,Q
9-TR26to28	ET331224	TR 2SC536KWBNP F,G SNP
9-TR29to37	ET331225	⚠ TR 2SC2274K-WB E,F SNP
9-TR38	ET666415	⚠ TR 2SB605 K,L
9-TR39	ET331224	TR 2SC536KWBNP F,G SNP
9-TR40	ET219857	TR 2SD438 E,F
9-TR41to43	ET331224	TR 2SC536KWBNP F,G SNP
9-TR45to53	ET331224	TR 2SC536KWBNP F,G SNP
9-D1to6	ED560913	D SILICON V 1S2473VE
9-D7to10	ED316143	D SILICON H 1S2473HS F10
9-D11,12	ED560913	D SILICON V 1S2473VE
9-D13	ED331227	D GERMA V 1K34A-UF SNP
9-D14to27	ED560913	D SILICON V 1S2473VE
9-D28to31	ED330622	D SILICON 1SR35-100VL 100/1.0A
9-D32,33	ED560913	D SILICON V 1S2473VE
9-D34	ED330622	D SILICON 1SR35-100VL 100/1.0A
9-D35	ED330989	D ZENER H HZ11 B2
9-D36to49	ED560913	D SILICON V 1S2473VE
9-D50,51	ED330622	D SILICON 1SR35-100VL 100/1.0A
9-D52	ED560913	D SILICON V 1S2473VE
9-L1	EO331574	COIL FIX 2 0749-471K 470μH
9-RL1	EP330425	RELAY POWER G2U-112P-US 1TR 12V
9-TH1,2	ED672232	⚠ POSISTER PTH62BD3R3M
9-R134	ER331228	R MF V 1/4W 3012F
9-R136	ER331229	⚠ R OMF V SNP 2W 121J
9-C13	EC314990	C STY V SNP CQFS 101J 50DC

10. POWER SUPPLY P.C BOARD BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
10-1	BAT1010A430A	PC POWER BLK GX-77(U) (U)
10-2	BAT1010A430B	PC POWER BLK GX-77(J) (J)
10-3	BAT1010A430C	PC POWER BLK GX-77(C) (C,A)
10-4	BAT1010A430D	PC POWER BLK GX-77(E)(E,B,S,V)
10-IC1	EI331249	⚠ IC μPC78M10H
10-TR1,2	ET639437	⚠ TR 2SC945L Q,P
10-TR3	ET307349	⚠ TR 2SD794 P,Q
10-TR4to6	ET639437	TR 2SC945L Q,P
10-TR7to10	ET317919	⚠ TR 2SC1061 C,D
10-D1	ED319463	⚠ D SILICON 4B4B41 100/4.0A
10-D2,3	ED330987	⚠ D SILICON RB152 200/1.5A
10-D4	ED319463	⚠ D SILICON 4B4B41 100/4.0A
10-D5	ED306109	⚠ D SILICON W03B 100/1.0A
10-D6	ED313566	⚠ D SILICON GP-25G 400/2.5A
10-D7	ED560913	D SILICON V 1S2473VE
10-D8	ED329051	D ZENER H HZ24 3
10-D9	ED315759	D ZENER H HZ16 1
10-D10	ED330989	D ZENER H HZ11 B2
10-R6	ER331250	R OMF V SNP 1W 472J
10-R12	ER331251	⚠ R FUSE ERD2FC 1/4W 4R7J
10-C17	EC320548	⚠ C CE V F 103Z 250AC (U,J)
10-C17	EC314688	⚠ C CE V FZ 103P 125AC (C,A)
10-C17	EC327382	⚠ C MP V 472M 250AC (E,B,S,V)

ASSEMBLY BLOCK

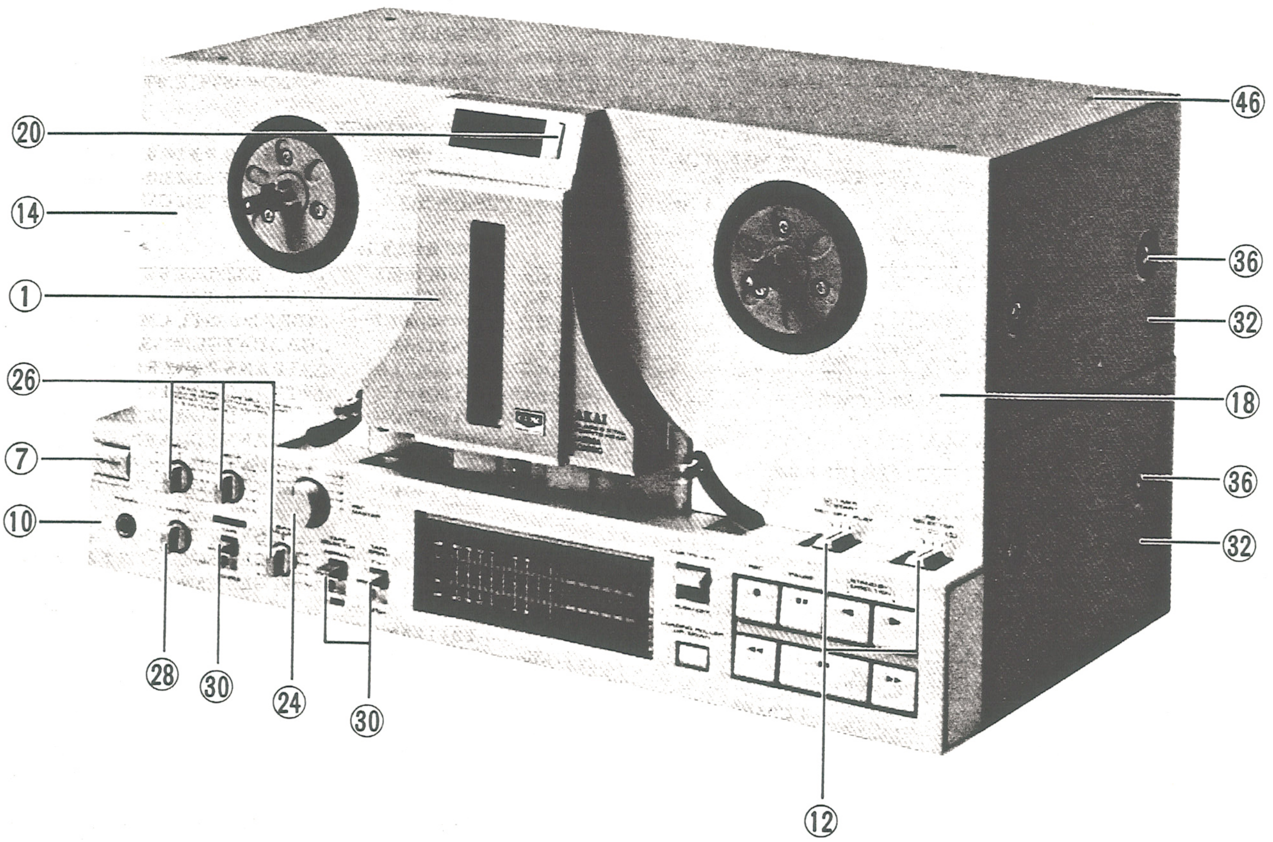


⚠(60)
(64)
⚠⑭
⚠⑬
⚠(77)
⑩
⑨
⑫
⚠(74)
⚠(71)
⚠(68)
⚠(65)
⑪
⚠⑮
(58)
(59)
(52)
(51)
⑯
⑦
(53)
(55)
(54)
⑳
⑲
⑱
(53)
(58)
(59)
⚠①
(56)
㊿
㊲
㉟
㉛
㉝
㉘
㉓
㉗
㉕
㉑
㊽
㊾
㊼
㊺
㉘
㊴
㊸
㊶
㉒
(56)

11. ASSEMBLY BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
	POWER BLOCK	
11-1	EW306428	⚠ AC CORD 2 CORES KP-205A, VFF UCJ (U)
11-2x	EW306427	⚠ AC CORD 2 CORES KP-211, VFF J (J)
11-3x	EW305691	⚠ AC CORD 2 CORES KP-8, SPT-1 UC (C,A)
11-4x	EW313882	⚠ AC CORD 2 CORES KP-419C, LTCE-2F E (E,V)
11-5x	EW313884	⚠ AC CORD 2 CORES GTBS-2F 24/0.20x2 B (B)
11-6x	EW201515	⚠ AC CORD 2 CORES KP-560, LTSA-2F S (S)
11-7	SZ631945	STRAIN RELIEF SR-4N-4 (U,J,C,A,E,S,V)
11-8x	EJ692908	STRAIN RELIEF SR-5N-4 (B)
11-9	ZS479474	PAN26x05STL CMT
11-10	ZS379350	PAN30x06STL CMT
11-11	ZS590804	PAN23x06STL CMT
	PC REMO. CON. BLOCK	
11-12	EJ331215	DIN J TCS1881-101 P 8P
	SOCKET SELECTOR BLOCK	
11-13	EJ262732	⚠ SOCKET SELECTOR S-I7223 U 7P
11-14	EJ249467	⚠ PLUG VOLTAGE SELECTOR S-I7207 3P
	PLUG CONNECTOR BLOCK	
11-15	EJ310203	⚠ PLUG CONNECTOR EC0630-020 2P
	CHASSIS AMP BLOCK	
11-16	SP331443A	CHASSIS AMP
11-17x	SP331443B	CHASSIS AMP (BL)
11-18	ZS444330	CTS30x04STL CMT
11-19	TP331447	ARM CUE
11-20	ZW290283	RING U 285SUP CMT
11-21	ZS331533	PT PAN30x08STL CMT
11-22	ED331263	IND LE LT-1016 GRAPH
	GUIDE CUE BLOCK	
11-23	SK331448A	GUIDE CUE KNOB
11-24x	SK331448B	GUIDE CUE KNOB (BL)
11-25	SK331449A	KNOB CUE
11-26x	SK331449B	KNOB CUE (BL)
11-27	ZG312923	SP T1-3.2/0.2-11.2 T1-040
	OPERATION BLOCK	
11-28	SE331459A	ESCUTCHEON OPERATION KEY
11-29x	SE331459B	ESCUTCHEON OPERATION KEY (BL)
11-30x	SB331025	OPERATE BUTTON
11-31	SBB603905	OPERATION KEY (A) PART
11-32x	SBB603901	OPERATION KEY (A)-BL PART
11-33	SBB603906	OPERATION KEY (B) PART
11-34x	SBB603902	OPERATION KEY (B)-BL PART
11-35	SBB603907	OPERATION KEY (C) PART
11-36x	SBB603903	OPERATION KEY (C)-BL PART
11-37	SBB603908	OPERATION KEY (F) PART
11-38x	SBB603904	OPERATION KEY (F)-BL PART
11-39	SB331026D	OPERATION KEY (D)
11-40x	SB331026K	OPERATION KEY (D)-BL
11-41	SB331026E	OPERATION KEY (E)
11-42x	SB331026L	OPERATION KEY (E)-BL
11-43	SB331027A	OPERATION KEY (G)
11-44x	SB331027B	OPERATION KEY (G)-BL
11-45	SB331028A	OPERATION KEY (H)
11-46x	SB331028B	OPERATION KEY (H)-BL
	PC OPERATION BLOCK	
11-47	ES315362	SW TACT AKC8S (SW1to8)
11-48	ED330997	D LED GL-5PR5 RED (D1)
11-49	ED330996	D LED GL-5HY5 YLW (D2)
11-50	ED330995	D LED SLP-260C GRN (D3,4)
	PC SELECT BLOCK	
11-51	ES331260	SW SLIDE SSB423 2-02-03N (SW1,2)
11-52	ZS432843	PAN26x04STL CMT
	SLIDE CHANGE BLOCK	
11-53	ZG313040	SP T1-5.0/0.55-14.0 T1-153
11-54	ZG313031	SP T1-5.0/0.32-28.0 T1-144
11-55	ZS455207	T2BR30x05STL CMT
	ASSEMBLY BLOCK	
11-56	ZW698308	RV NYL30x055 BL
11-57x	ZW263946	RV NYL40x050
11-58	ZW331567	T2BR30x08STL CMT C080
11-59	ZW625241	GRADUATED WASHER
11-60	BT331218	⚠ TRANS POWER NFT-1 (U)
11-61x	BT331219	⚠ TRANS POWER NFT-2 (J)
11-62x	BT331221	⚠ TRANS POWER NFT-4 (C,A)
11-63x	BT331220	⚠ TRANS POWER NFT-3 (E,B,S,V)
11-64	ZS314702	ST BID40x10STL CMT
11-65	EF601301	⚠ FUSE SEMKO T 250V 2A (F1) (U,E,B,S,V)
11-66x	EF306951	⚠ FUSE TSC A 250V 2.5A (F1) (J)
11-67x	EF306956	⚠ FUSE TSC 125V 2.5A (F1) (C,A)
11-68	EF601964	⚠ FUSE SEMKO T 250V 1.60A (F2) (U,E,B,S,V)
11-69x	EF311839	⚠ FUSE TSC A 250V 1.6A (F2) (J)
11-70x	EF308847	⚠ FUSE TSC 125V 1.60A (F2)(C,A)
11-71	EF258344	⚠ FUSE SEMKO T 250V 0.80A (F3) (U,E,B,S,V)
11-72x	EF309388	⚠ FUSE TSC A 250V 0.80A (F3)(J)
11-73x	EF309391	⚠ FUSE TSC 125V 0.08A (F3)(C,A)
11-74	EF602550	⚠ FUSE SEMKO T 250V 1.25A (F4) (U,E,B,S,V)
11-75x	EF306949	⚠ FUSE TSC A 250V 1.25A (F4)(J)
11-76x	EF309392	⚠ FUSE TSC 125V 1.25A (F4)(C,A)
11-77	EF602550	⚠ FUSE SEMKO T 250V 1.25A (F5) (U,E,B,S,V)

FINAL ASSEMBLY BLOCK



12. FINAL ASSEMBLY BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
	COVER HEAD BLOCK	
12-1	BCT1010A540A	COVER HEAD BLK GX-77
12-2x	BCT1010A540B	COVER HEAD BLK GX-77-BL
12-3x	BDB603561	LID HEAD COVER PART
12-4x	BDB603563	LID HEAD COVER (BL) PART
12-5x	MZ331479	ARM FRICTION (V)
12-6x	ZG312965	SP T1-3.2/0.45-20.0 T1-079
	CHASSIS AMP BLOCK	
12-7	SK317468A	KNOB PUSH (A)
12-8x	SK317468B	KNOB PUSH (A)-BL
12-9x	ZG370350	REEL TABLE SPRING
	FINAL ASSEMBLY BLOCK	
12-10	BDB603414	PANEL AMP PART
12-11x	BDB603416	PANEL AMP (BL) PART
12-12	SK331481A	KNOB SELECTOR
12-13x	SK331481B	KNOB SELECTOR (BL)
12-14	SP331489A	PANEL (L)
12-15x	SP331489B	PANEL (L)-BL
12-16x	ZS379350	PAN30×06STL CMT
12-17x	ZS325495	T2BR30×06STL CMT
12-18	SP331489C	PANEL (R)
12-19x	SP331489D	PANEL (R)-BL
12-20	SK331486A	KNOB RESET
12-21x	SK331486B	KNOB RESET (BL)
12-22x	ZS691277	PANEL SCREW
12-23x	ZS322939	PANEL SCREW (B) (BL)
12-24	SK331487A	KNOB REC
12-25x	SK331487B	KNOB REC (BL)
12-26	SK331109G	KNOB (F)
12-27x	SK331109E	KNOB (D)-BL
12-28	SK331109F	KNOB (E)
12-29x	SK331109B	KNOB (B)-BL
12-30	TC316384	LEVER (A)
12-31x	TC316385	LEVER (A-BL)
12-32	SP331493A	COVER
12-33x	SP331493B	COVER (BL)
12-34x	SA331534	FOOT 2059
12-35x	ZS301398	ST BID40×08STL CMT
12-36	ZS315878	XST BID40×08STL NI3
12-37x	ZS310588	XST BID40×08STL BNI (BL)
12-38x	SP331494B	PANEL REAR BOARD GX-77(U)
12-39x	SP331494C	PANEL REAR BOARD GX-77(J)
12-40x	SP331494D	PANEL REAR BOARD GX-77(A,C)
12-41x	SP331494A	PANEL REAR BOARD GX-77(E,V)
12-42x	SP331494E	PANEL REAR BOARD GX-77(B,S)
12-43x	ZS332469	ST PAN40×10STL CMT CUP
12-44x	ZS331568	T2BR30×10STL CMT C080
12-45x	ZW305013	RV POP32 (A)
12-46	SA331496A	CUSHION RUBBER
12-47x	SA331496B	CUSHION RUBBER (BL)

INDEX

PARTS NO.	REF. NO.	PARTS NO.	REF. NO.	PARTS NO.	REF. NO.	PARTS NO.	REF. NO
BAT1010A430A	10-1	ED672232	9-TH1,2	ET309353	8-TR15	MV331325	7-53
BAT1010A430B	10-2	EF258344	11-71	ET317919	10-TR7to10	MV331361	7-40
BAT1010A430C	10-3	EF306949	11-75x	ET324134	8-TR16	MZ331362	3-19
BAT1010A430D	10-4	EF306951	11-66x	ET324539	5-20	MZ331397	5-10
BAT1010A450A	9-1	EF306956	11-67x	ET331196	8-TR31,32	MZ331479	12-5x
BAT1010A450B	9-2	EF308847	11-70x	ET331223	9-TR1to10	MZ331557	6-1
BAT1010A520A	8-1	EF309388	11-72x	ET331224	9-TR11to22	MZ585900	7-6
BAT1010A520B	8-2	EF309391	11-73x	ET331224	9-TR24	SA331372	6-21
BAT1010A520C	8-3	EF309392	11-76x	ET331224	9-TR26to28	SA331496A	12-46
BCT1010A540A	12-1	EF311839	11-69x	ET331224	9-TR39	SA331496B	12-47x
BCT1010A540B	12-2x	EF601301	11-65	ET331224	9-TR41to43	SA331534	12-34x
BDB603414	12-10	EF601964	11-68	ET331224	9-TR45to53	SBB603901	11-32x
BDB603416	12-11x	EF602550	11-74	ET331225	9-TR29to37	SBB603902	11-34x
BDB603561	12-3x	EF602550	11-77	ET331279	8-TR4,5	SBB603903	11-36x
BDB603563	12-4x	EI213390	8-IC1	ET331279	8-TR12	SBB603904	11-38x
BHT1010A360A	2-2	EI331222	9-IC1	ET375603	8-TR29	SBB603905	11-31
BHT1010A370A	2-1	EI331249	10-IC1	ET603257	8-TR3	SBB603906	11-33
BMT1010A130A	7-1	EI331573	9-IC2	ET603257	8-TR9	SBB603907	11-35
BM331256	3-23	EJ249467	11-14	ET603257	8-TR11	SBB603908	11-37
BT331218	11-60	EJ262732	11-13	ET603257	8-TR13	SB331025	11-30x
BT331219	11-61x	EJ308985	8-J2	ET603257	8-TR28	SB331026D	11-39
BT331220	11-63x	EJ310203	11-15	ET639437	10-TR1,2	SB331026E	11-41
BT331221	11-62x	EJ319466	8-J2	ET639437	10-TR4to6	SB331026K	11-40x
BZB331336A	6-40	EJ331215	11-12	ET666415	9-TR38	SB331026L	11-42x
BZB331336B	6-44	EJ331602	8-J1	EV331199	8-VR1	SB331027A	11-43
BZB331398	5-8	EJ692908	11-8x	EV331201	8-VR2	SB331027B	11-44x
BZB331423	4-3	EL324540	5-19	EV331202	8-VR1	SB331028A	11-45
BZT1010A050A	5-1	EO315758	8-L2,3	EV331285	8-VR2	SB331028B	11-46x
BZT1010A070A	5-12	EO319447	8-FL1	EV336843	8-VR12	SE331429A	4-6
BZT1010A240A	7-18	EO319495	8-FL2	EV336849	8-VR6,7	SE331429B	4-7x
BZT1010A270A	7-15	EO331190	8-L1	EV336853	8-VR5	SE331459A	11-28
EC201345	8-C56	EO331280	8-FL3	EV336853	8-VR10,11	SE331459B	11-29x
EC285513	8-C25	EO331574	9-L1	EV341225	8-VR8,9	SK317468A	12-7
EC285513	8-C35	EP249344	8-RL1,2	EW201515	11-6x	SK317468B	12-8x
EC305422	8-C38	EP330425	9-RL1	EW305691	11-3x	SK331109B	12-29x
EC306987	8-C24	EP331253	7-2	EW306427	11-2x	SK331109E	12-27x
EC314688	10-C17	EP331254	7-4	EW306428	11-1	SK331109F	12-28
EC314990	9-C13	EP331257	7-30	EW313882	11-4x	SK331109G	12-26
EC320548	10-C17	EP331258	7-26	EW313884	11-5x	SK331339A	6-33
EC325380	8-C75	ER280710	3-18	EO330991	8-TC1	SK331339B	6-34x
EC327382	10-C17	ER317595	8-R121	HEH1305A010A	2-5	SK331448A	11-23
EC474671	8-C22	ER319510	8-FR1	HPH1005A010A	2-18	SK331448B	11-24x
EC474671	8-C8	ER331188	8-FR2,3	HRH1103A010A	2-11	SK331449A	11-25
ED301911	8-D3,4	ER331228	9-R134	HZ330925	2-19	SK331449B	11-26x
ED301911	8-D7to10	ER331229	9-R136	HZ331147	2-8	SK331481A	12-12
ED301911	8-D13	ER331250	10-R6	HZ331148A	2-10x	SK331481B	12-13x
ED301911	8-D16,17	ER331251	10-R12	HZ331148B	2-9	SK331486A	12-20
ED306109	3-17	ER331281	8-R39	HZ331149	2-15	SK331486B	12-21x
ED306109	10-D5	ER332362	8-R112	HZ331150A	2-17x	SK331487A	12-24
ED308952	8-D11,12	ER332363	8-R113	HZ331150B	2-16	SK331487B	12-25x
ED313566	10-D6	ES283072	8-SW3	HZ331151	2-21	SP331443A	11-16
ED315759	10-D9	ES283151	5-21	HZ331171A	2-4x	SP331443B	11-17x
ED316143	8-D1	ES283151	6-12	HZ331172	2-3	SP331489A	12-14
ED316143	8-D5,6	ES301435	8-SW2	MB282104	4-5	SP331489B	12-15x
ED316143	8-D14	ES315362	11-47	MB282104	7-16	SP331489C	12-18
ED316143	9-D7to10	ES319448	8-SW4	MB331350	7-57	SP331489D	12-19x
ED319463	10-D1	ES328414	5-26	MB331351	3-26	SP331493A	12-32
ED319463	10-D4	ES330420	6-15x	MB606712	5-22	SP331493B	12-33x
ED324082	5-25	ES330421	6-16x	MB606712	7-50	SP331494A	12-41x
ED329051	10-D8	ES330422	6-14	MB665561	7-17	SP331494B	12-38x
ED330622	9-D28to31	ES331203	8-SW5	MC331382	7-22	SP331494C	12-39x
ED330622	9-D34	ES331204	8-SW1	MH331308	6-8	SP331494D	12-40x
ED330622	9-D50,51	ES331205	8-SW6	MH331392	5-3	SP331494E	12-42x
ED330987	10-D2,3	ES331259	7-28	MI331310	7-33	SZ331312	7-34
ED330989	9-D35	ES331260	11-51	MI331311	7-54	SZ331313	7-35
ED330989	10-D10	ES331575	4-11	ML321550	6-17	SZ331314	7-36
ED330995	11-50	ET200505	8-TR6,7	ML331379	7-19	SZ331317	7-44
ED330996	11-49	ET200505	8-TR10	ML331381	7-21	SZ331337	6-41
ED330997	11-48	ET200505	8-TR14	MP331347	6-30	SZ331394	5-6
ED331197	8-D2	ET200505	8-TR17to22	MR331328	3-25	SZ331421A	4-1
ED331198	8-D15	ET200505	8-TR24to27	MR331432	3-1	SZ331421B	4-9
ED331227	9-D13	ET200505	8-TR33,34	MR331433	5-15	SZ338391	5-2
ED331263	11-22	ET200505	8-TR30	MS342000	3-8	SZ631945	11-7
ED560913	9-D1to6	ET200558	8-TR23	MTB603571	3-5	TC316384	12-30
ED560913	9-D11,12	ET219857	9-TR40	MTB604269	3-7x	TC316385	12-31x
ED560913	9-D14to27	ET307349	9-TR23	MTT1003A340A	3-2	TP331447	11-19
ED560913	9-D32,33	ET307349	9-TR25	MT300426	3-6	ZG206144	2-13
ED560913	9-D36to49	ET307349	10-TR3	MT331326	3-22	ZG255633	3-10
ED560913	9-D52	ET308954	8-TR1,2	MT458943	3-9	ZG312923	7-10
ED560913	10-D7	ET308954	8-TR8	MT516565	3-11	ZG312923	11-27

INDEX

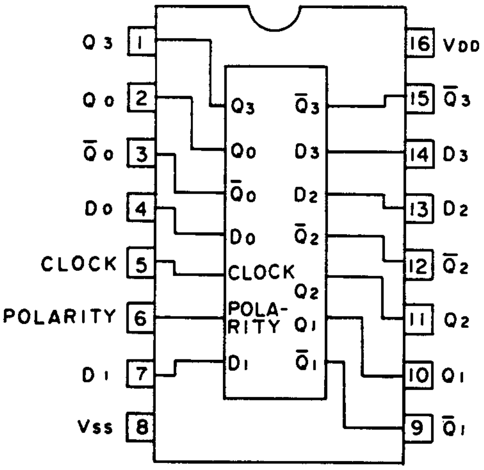
PARTS NO.	REF. NO.
ZG312925	7-25
ZG312945	7-49
ZG312946	7-24
ZG312947	6-26
ZG312962	7-46
ZG312965	12-6x
ZG312996	6-24
ZG313031	11-54
ZG313040	11-53
ZG313043	7-12
ZG317496	3-3
ZG331315	7-37
ZG331324	7-47
ZG331352	6-11
ZG331353	6-39
ZG331354A	6-28
ZG331354B	6-29
ZG331355A	6-42
ZG331355B	6-45
ZG331407	5-14
ZG331427	4-4
ZG332778	7-23
ZG336117	7-9
ZG336313	7-52
ZG370350	12-9x
ZG385457	6-27
ZS265814	4-2
ZS301398	12-35x
ZS302318	3-16
ZS306435	6-36x
ZS310588	12-37x
ZS314702	11-64
ZS315878	12-36
ZS322939	12-23x
ZS323728	2-7
ZS325495	5-16
ZS325495	7-8
ZS325495	12-17x
ZS331111	3-15
ZS331530	7-11
ZS331533	11-21
ZS331568	12-44x
ZS332469	12-43x
ZS336628	3-13
ZS336629	3-14x
ZS379350	3-20
ZS379350	4-8
ZS379350	4-12
ZS379350	5-30
ZS379350	7-41
ZS379350	11-10
ZS379350	12-16x
ZS379405	7-42
ZS380046	6-22
ZS417137	7-31
ZS417150	2-22
ZS417150	7-38
ZS417216	3-24
ZS417216	5-28
ZS417216	6-2
ZS417216	7-14
ZS417216	7-39
ZS417216	7-48
ZS417216	7-58
ZS419670	2-14
ZS419670	5-17
ZS419670	7-51
ZS421806	5-29
ZS430413	5-7
ZS432843	11-52
ZS444330	11-18
ZS455207	3-4x
ZS455207	11-55
ZS460440	2-12
ZS460440	7-29
ZS464703	6-13
ZS477876	2-6
ZS479474	11-9
ZS483502	4-10
ZS483502	5-23
ZS537085	5-18
ZS590804	6-43
ZS590804	11-11
ZS592378	7-27
ZS608095	2-20
ZS613901	6-35
ZS691277	12-22x
ZW259738	3-21
ZW259931	6-46
ZW260010	5-11
ZW260076	6-31
ZW263946	11-57x
ZW270088	3-12
ZW270088	6-25
ZW270088	7-10
ZW270088	7-32
ZW270101	7-13
ZW270123	6-37
ZW270123	7-45
ZW270134	6-38
ZW273892	5-5
ZW273892	6-7
ZW274026	6-10
ZW274026	6-19
ZW282407	5-9
ZW290283	5-27
ZW290283	6-5
ZW290283	6-23
ZW290283	7-43
ZW290283	11-20
ZW305013	12-45x
ZW307947	6-4
ZW331567	11-58
ZW331858	7-56
ZW336595	5-13
ZW357164	7-3
ZW376391	6-32
ZW413188	5-4
ZW413188	6-6
ZW413278	6-9
ZW413278	6-18
ZW413278	7-7
ZW462205	7-5
ZW516993	5-24
ZW516993	6-20
ZW560215	7-55
ZW609322	6-3
ZW625241	11-59
ZW698308	11-56

SECTION 3

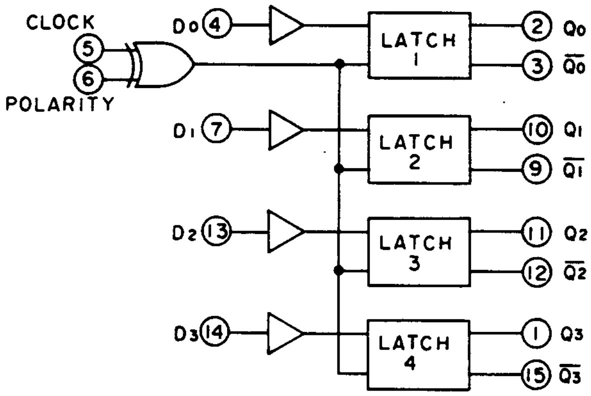
SCHEMATIC DIAGRAM

1. SCHEMATIC DIAGRAM OF ICs
2. GX-77 NO. 2-1 1622028A POWER & SYSCON SCHEMATIC DIAGRAM
3. GX-77 NO. 2-2 1622033A AMP SCHEMATIC DIAGRAM

HD14042BP



Q3 1
Q0 2
$\overline{Q}$0 3
D0 4
CLOCK 5
POLARITY 6
D1 7
Vss 8
16 VDD
15 $\overline{Q}$3
14 D3
13 D2
12 $\overline{Q}$2
11 Q2
10 Q1
9 $\overline{Q}$1
Q3
$\overline{Q}$3
Q0
D3
$\overline{Q}$0
D2
D0
$\overline{Q}$2
CLOCK
Q2
POLA-RITY
Q1
D1
$\overline{Q}$1



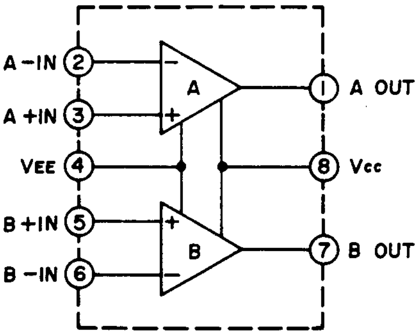
CLOCK
5
6
POLARITY
D0 4
D1 7
D2 13
D3 14
LATCH 1
LATCH 2
LATCH 3
LATCH 4
2 Q0
3 $\overline{Q}$0
10 Q1
9 $\overline{Q}$1
11 Q2
12 $\overline{Q}$2
1 Q3
15 $\overline{Q}$3

TRUTH TABLE

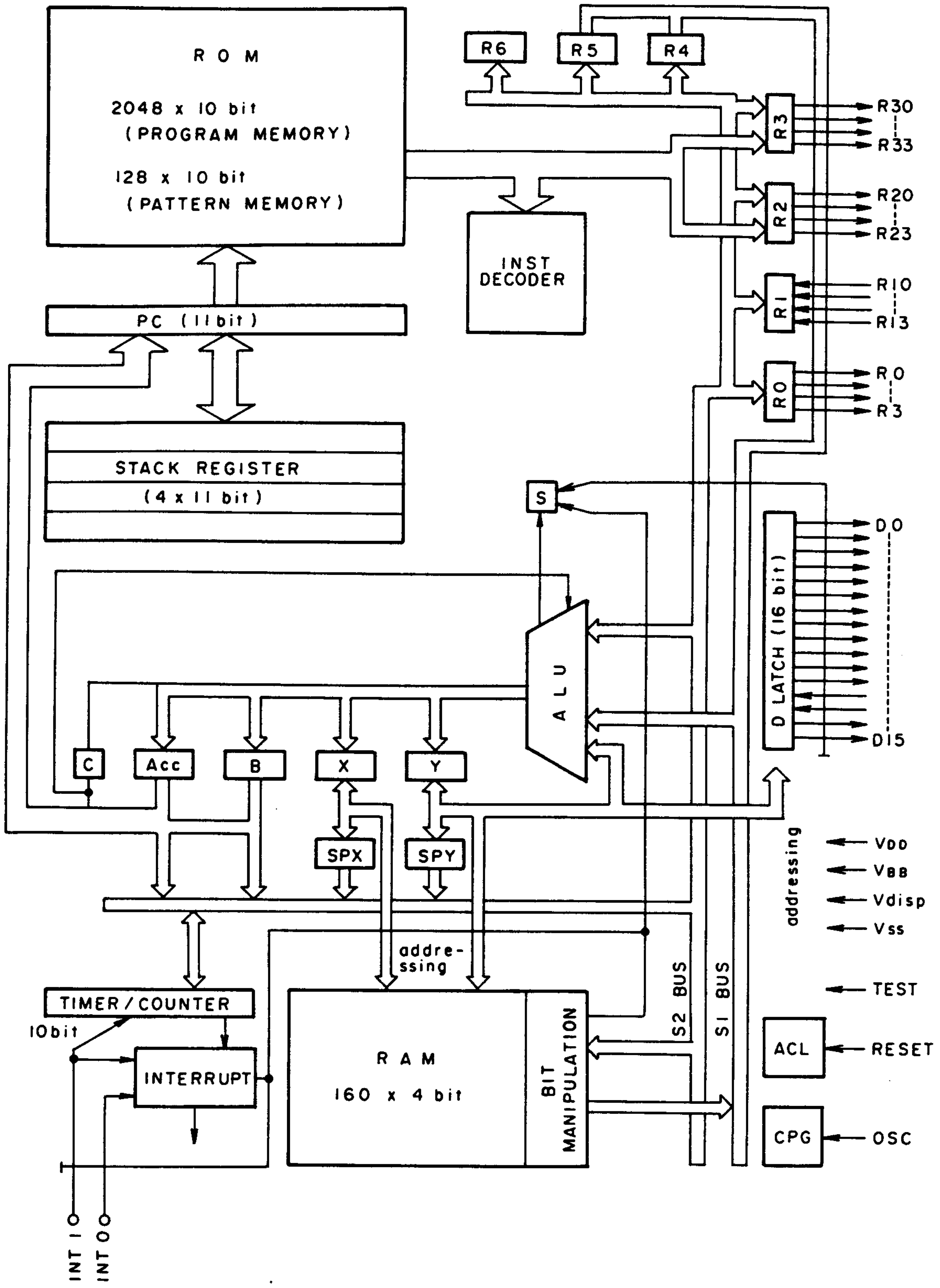
INPUT		OUTPUT
CLOCK	POLARITY	Q
L	L	CATA
↑	L	LATCH
H	H	DATA
↓	H	LATCH

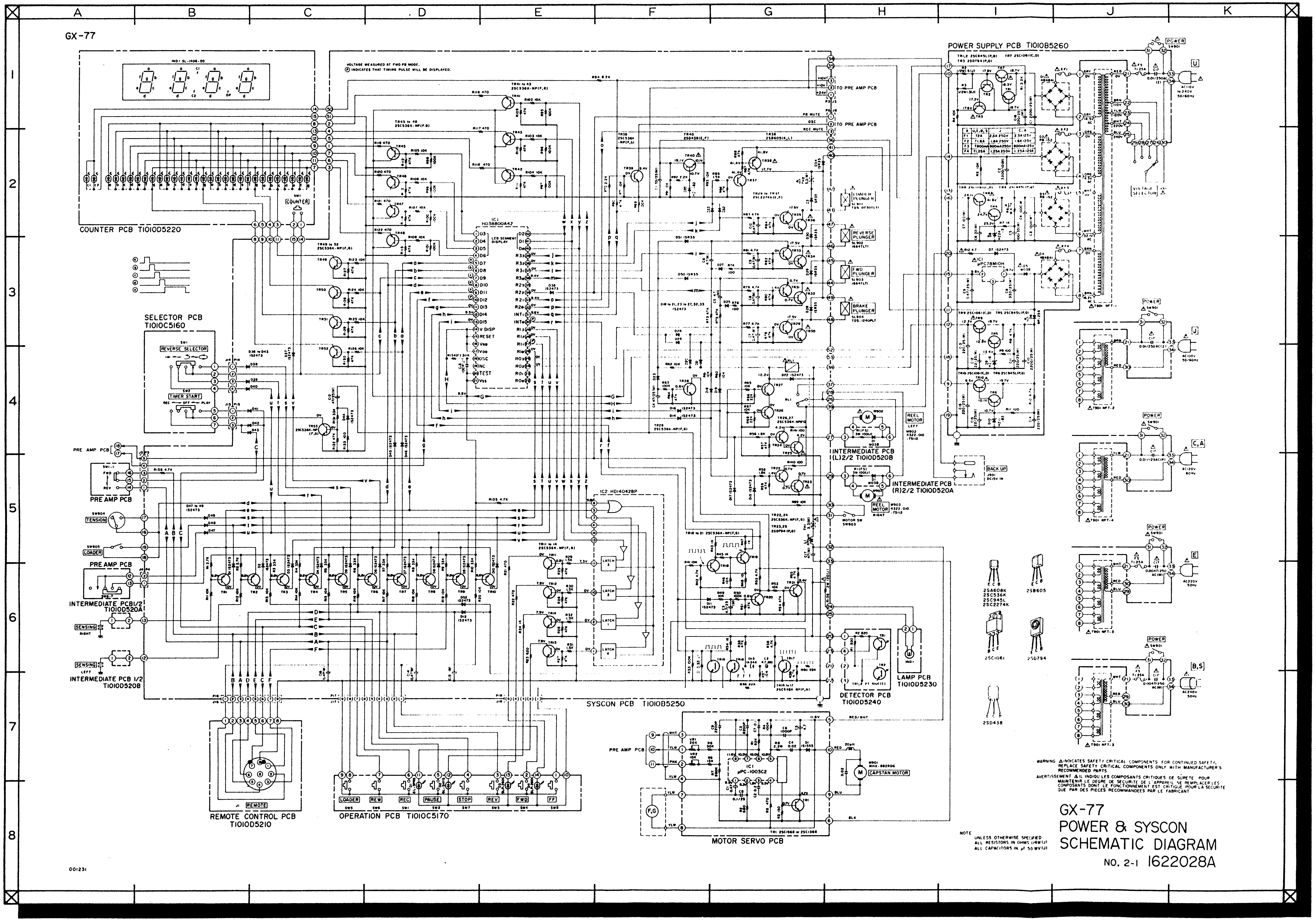
H : HIGH LEVEL
L : LOW LEVEL

NJM4558D



A −IN 2
A +IN 3
VEE 4
B +IN 5
B −IN 6
A
B
1 A OUT
8 Vcc
7 B OUT


ROM
2048 x 10 bit
(PROGRAM MEMORY)
128 x 10 bit
(PATTERN MEMORY)
PC (11bit)
STACK REGISTER
(4 x 11 bit)
R6
R5
R4
R3
R30
R33
R2
R20
R23
R1
R10
R13
R0
R0
R3
INST DECODER
S
D LATCH (16 bit)
D0
D15
ALU
C
Acc
B
X
Y
SPX
SPY
addressing
VDD
VBB
Vdisp
VSS
TEST
addre-ssing
S2 BUS
S1 BUS
TIMER/COUNTER
10bit
INTERRUPT
RAM
160 x 4 bit
BIT MANIPULATION
ACL
RESET
CPG
OSC
INT1
INT0

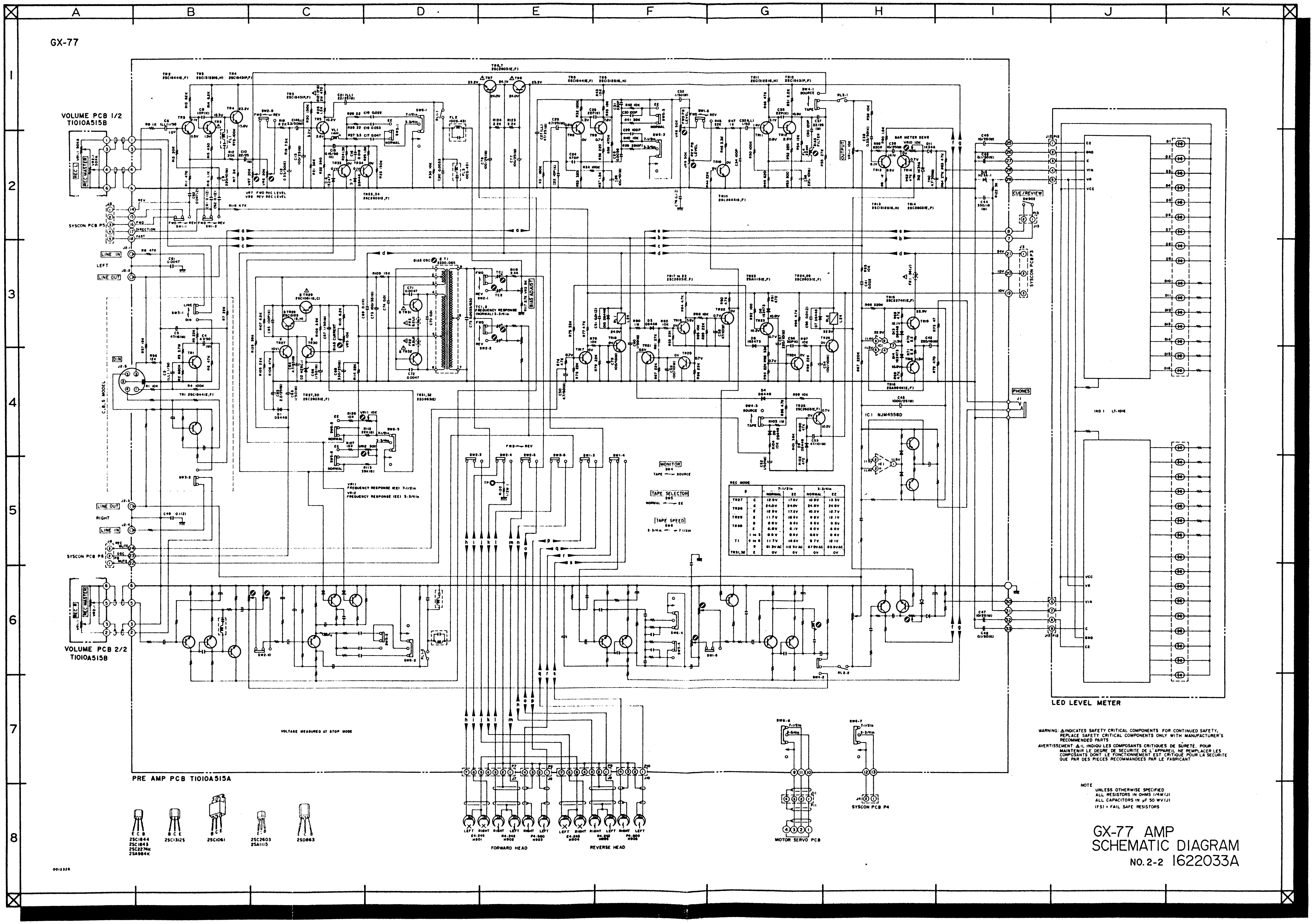

A
B
C
D
E
F
G
H
I
J
K
1
2
3
4
5
6
7
8
GX-77
VOLTAGE MEASURED AT FWD PB MODE.
COUNTER PCB T1010D5220
SELECTOR PCB T1010C5160
REVERSE SELECTOR
TIMER START
PRE AMP PCB
TENSION
LOADER
INTERMEDIATE PCB1/2 T1010D520A
SENSING RIGHT
SENSING LEFT
INTERMEDIATE PCB 1/2 T1010D520B
REMOTE
REMOTE CONTROL PCB T1010D5210
LOADER
REW
REC
PAUSE
STOP
REV
FWD
FF
OPERATION PCB T1010C5170
SYSCON PCB T1010B5250
IC1 HD38800A42
IC2 HD14042BP
LATCH
TO PRE AMP PCB
PB MUTE
OSC
REC MUTE
PINCH PLUNGER
REVERSE PLUNGER
FWD PLUNGER
BRAKE PLUNGER
REEL MOTOR LEFT
INTERMEDIATE PCB (L)2/2 T1010D520B
INTERMEDIATE PCB (R)2/2 T1010D520A
REEL MOTOR RIGHT
MOTOR SW SW903
BACK UP
DETECTOR PCB T1010D5240
LAMP PCB T1010D5230
MOTOR SERVO PCB
CAPSTAN MOTOR
IC1 μPC-1003C2
POWER SUPPLY PCB T1010B5260
IC1 μPC78M10H
VOLTAGE SELECTOR
POWER
[U]
[J]
[C,A]
[E]
[B,S]
AC110V to 240V 50/60Hz
AC100V 50/60Hz
AC120V 60Hz
AC220V 50Hz
AC240V 50Hz
2SA608K
2SC536K
2SC945L
2SC2274K
2SB605
2SC1061
2SD794
2SD438
001231

WARNING ⚠ INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT ⚠ IL INDIQU LES COMPOSANTS CRITIQUES DE SURETE POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL NE REMPLACER LES CONPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT

NOTE UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W(J)
ALL CAPACITORS IN μF 50 WV(J)

GX-77
POWER & SYSCON
SCHEMATIC DIAGRAM
NO. 2-1 1622028A


GX-77
A
B
C
D
E
F
G
H
I
J
K
1
2
3
4
5
6
7
8
VOLUME PCB 1/2
T1010A515B
REC L
REC MASTER
SYSCON PCB P5
REV
FWD
DIRECTION
FAST
LINE IN
LEFT
LINE OUT
DIN
C.B.S MODEL
LINE OUT
RIGHT
LINE IN
SYSCON PCB P6
REC R
REC MASTER
VOLUME PCB 2/2
T1010A515B
BIAS OSC
BIAS ADJUST
OUTPUT
CUE/REVIEW
SYSCON PCB P3
PHONES
IC1 NJM4558D
IND 1 LT-1016
MONITOR
SW4
TAPE — SOURCE
TAPE SELECTOR
SW5
NORMAL — EE
TAPE SPEED
SW6
3-3/4in — 7-1/2in
VOLTAGE MEASURED AT STOP MODE
PRE AMP PCB T1010A515A
LED LEVEL METER
FORWARD HEAD
REVERSE HEAD
MOTOR SERVO PCB
SYSCON PCB P4
2SC1844
2SC1843
2SC2274K
2SA984K
2SC1312S
2SC1061
2SC2603
2SA1115
2SD863

REC MODE

S		7-1/2in		3-3/4in	
		NORMAL	EE	NORMAL	EE
TR27	C	12.9V	17.8V	10.9V	13.3V
TR28	C	24.0V	24.0V	24.0V	24.0V
	E	12.3V	17.2V	10.3V	12.7V
TR29	E	11.7V	16.6V	9.8V	12.1V
TR30	B	6.6V	6.6V	6.6V	6.6V
	E	6.0V	6.1V	6.0V	6.0V
T1	1 to 3	0.6V	0.8V	0.6V	0.6V
	4 to 6	11.7V	16.6V	9.7V	12.1V
	8	81.3VAC	112.5VAC	67.9VAC	83.8VAC
TR31, 32	E	0V	0V	0V	0V

WARNING: △INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: △IL INDIQU LES COMPOSANTS CRITIQUES DE SÛRETÉ. POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL NE REMPLACER LES CONPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W(J)
ALL CAPACITORS IN μF 50 WV(J)
(FS) = FAIL SAFE RESISTORS

GX-77 AMP
SCHEMATIC DIAGRAM

NO. 2-2 1622033A